TASI MAURI

A Report on Population and Resources of the Guadalcanal Weather Coast

DRAFT ONLY

Produced for Local Evaluation; Not for Publication

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A Report on Population and Resources of the Guadalcanal Weather Coast

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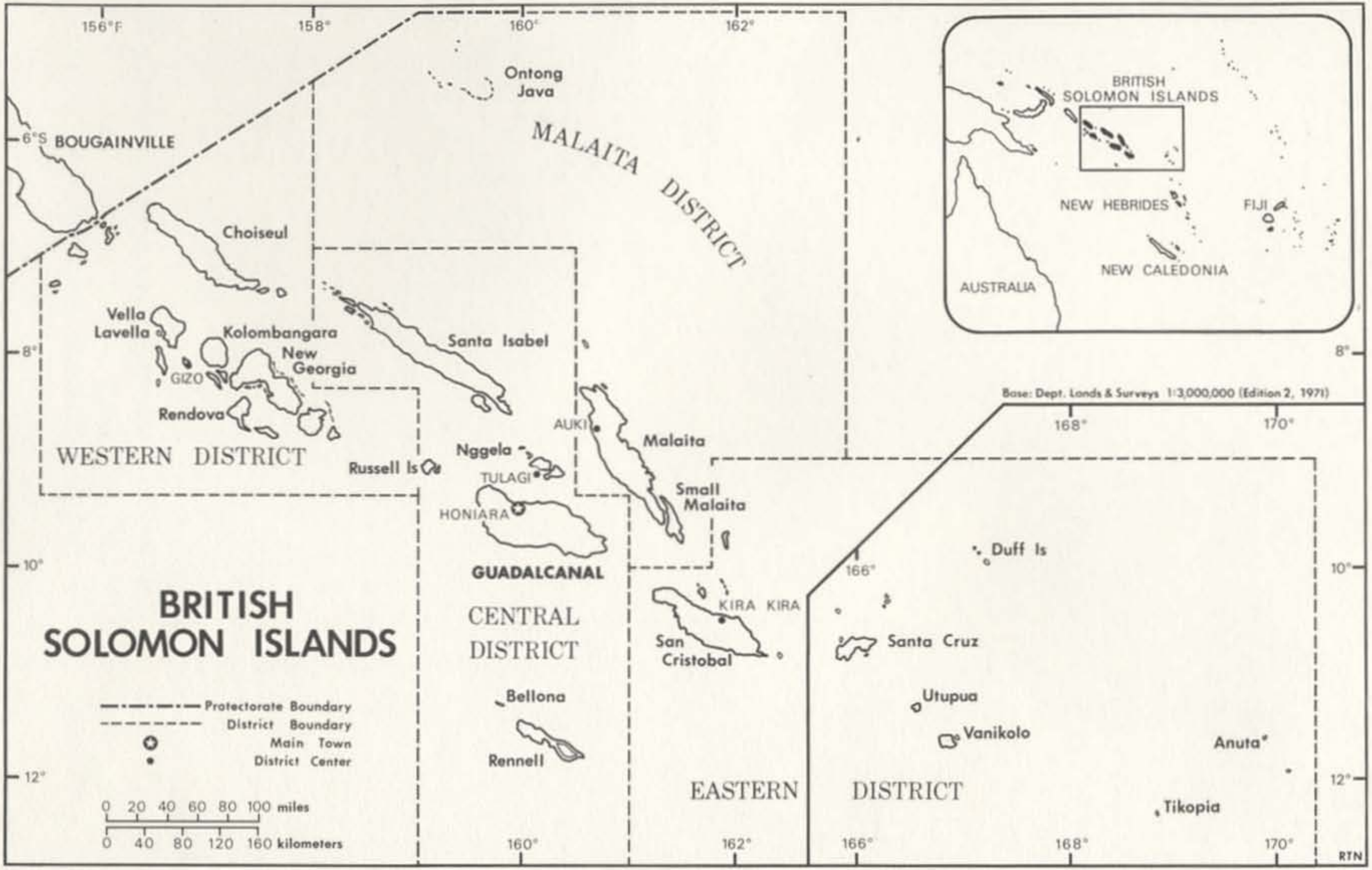
ABBREVIATIONS

AMO	Annales Des Missions de l'Oceanie, 1899-1921
ANU	Australian National University
BSIP	British Solomon Islands Protectorate
BSIP-C	British Solomon Islands Protectorate Correspondence, 1936-65
BSIP-ED	British Solomon Islands Protectorate Deaprtment of Education
BSIP-MD	British Solomon Islands Protectorate Medical Department
BSIP-N	British Solomon Islands Protectorate News Sheet
CAO	Commonwealth Archives Office, Canberra, Australia
COI	Central Office of Information, Colonial Office, Great Britain
FNA	Fiji National Archives, Suva
GC	Guadalcanal Council
GCD	Governing Council Debates
HD	Hydrographic Department, Ministry of Defence, England
HMSO	Her Majesty's Stationery Office
LAM	Lettres Aux Missionaires
LCD	Legislative Council Debates
ML	Mitchell Library, Sydney, Australia
NIV	Not In Vain
QID	Queensland Immigration Department
QKM	Queensland Kanaka Mission
QSA	Queensland State Archives
SIBS	Solomon Islands Broadcasting Service
SILC	Solomon Islands Labor Corps/papers relating to
SCL	Southern Cross Log
SSEM	South Seas Evangelical Mission
UNDP	United Nations Development Program
USDA	United States Department of Agriculture
WPHC	Western Pacific High Commission
WPHC-D	Western Pacific High Commission, dispatches from High Commissioner to Resident Commissioner, BSIP, 1898-1934
WPHC-IC	Western Pacific High Commission, Inward Correspondece, General 1879 onward
WPHC-OC	Western Pacific High Commission, Outward Correspondence

Figure 1.1


BRITISH
SOLOMON ISLANDS
156°E
158°
160°
162°
168°
170°
166°
6°S
8°
10°
12°
BOUGAINVILLE
Ontong
Java
MALAITA DISTRICT
Choiseul
Vella
Lavella
Kolombangara
New
Georgia
GIZO
Rendova
Santa Isabel
WESTERN DISTRICT
Russell Is
Nggela
TULAGI
HONIARA
AUKI
Malaita
Small
Malaita
GUADALCANAL
CENTRAL
DISTRICT
KIRA KIRA
San
Cristobal
Bellona
Rennell
EASTERN
DISTRICT
Duff Is
Santa Cruz
Utupua
Vanikolo
Anuta
Tikopia
Protectorate Boundary
District Boundary
Main Town
District Center
0 20 40 60 80 100 miles
0 40 80 120 160 kilometers
BRITISH
SOLOMON ISLANDS
NEW HEBRIDES
FIJI
NEW CALEDONIA
AUSTRALIA
Base: Dept. Lands & Surveys 1:3,000,000 (Edition 2, 1971)
RTN

Chapter 1
THE PROBLEM

The south coast of Guadalcanal, in the British Solomon Islands Protectorate (Fig. 1.1), consists of a narrow strip isolated from the north coast by a mountain backbone that reaches its peak at Mount Popomanaseu (2,330 meters: Fig. 1.2). Exposed to strong prevailing winds for nine months out of twelve, drenched by daily showers, and made impassable after a day's rain by swiftly-rising rivers, this locality is aptly known as the Weather Coast. To the people the seas of the north coast appear "dead" (tasi mate); at home on the south coast they become "live" and devilish (tasi mauri).

Within this seemingly inhospitable environment, or one quarter of Guadalcanal's area, were estimated to live, from District Administration head counts in 1965, about 35 per cent of the island's total population, or some 5,993 people. They are nominally Christian (South Seas Evangelical Church, Roman Catholic, Seventh Day Adventist, and Anglican), speak eight identified "languages" (Hackman, 1968) and, except for the eastern tip around Marau Sound, (Fig. 1.4) are grouped in exogamous matrilineal moieties. Yam, taro and kumara are the main root crops grown by these shifting cultivators, and gently sloping valley bottoms may be left bush fallow for up to 20 years. As before the war, wage labor is the major source of cash, with copra derived from scattered plantings of coconuts providing a local supplement. The expression heard constantly, "We are a poor people," is a stereotype but has more than an ingredient of truth.

Despite the construction of some cutters and three local airstrips (Fig. 1.4), the Weather Coast is still relatively isolated from the economic and political power of north Guadalcanal. This, compounded by the independent spirit of the population, has led to their substantial sympathy with Moro of Makaruka (Fig. 1.4), a cult leader who aims at both socio-political identity and economic advancement for the Weather Coast as for the whole of the island (Davenport and Coker, 1967). Parallel trends are apparent in such villages as Duidui, Haimarao and Pichahila (Fig. 2.1) that steadfastly refuse to be part of Moro's efforts, but seek to attain comparable goals through the more conventional means of the district administration and the various missions.

During 1969, a survey of the environmental resources of the Weather Coast was undertaken by field teams of the Land Resources Division of the Directorate of Overseas Surveys, United Kingdom, as part of a Protectorate-wide survey to assess the land resources and their potential. One result of that fieldwork on the Weather Coast was a feeling that it might be an incipient problem area from the standpoint of the relation between natural resources and population. "Use of the land was said to be relatively intensive, including the use of very steep unstable hill slopes. These are more or less scree slopes with continuous downward sliding of the gravelly soil material." (Leach, 1969). This assessment gained additional reinforcement from a map of population density in 1970, prepared on the basis of reconnaissance data from the malaria eradication campaign, in which greatest pressure appeared to be evident in the Talise area (Fig. 1.3, compare Fig. 1.5).

Following a series of consultations, these concerns were transformed into a survey of the Weather Coast undertaken from September 1972 to January 1973 under the auspices of the East-West Population Institute. The overall purpose was to investigate in detail the population resource systems of the region, and to assess the extent to which they were functional and susceptible to change. The tactic employed was to locate field-

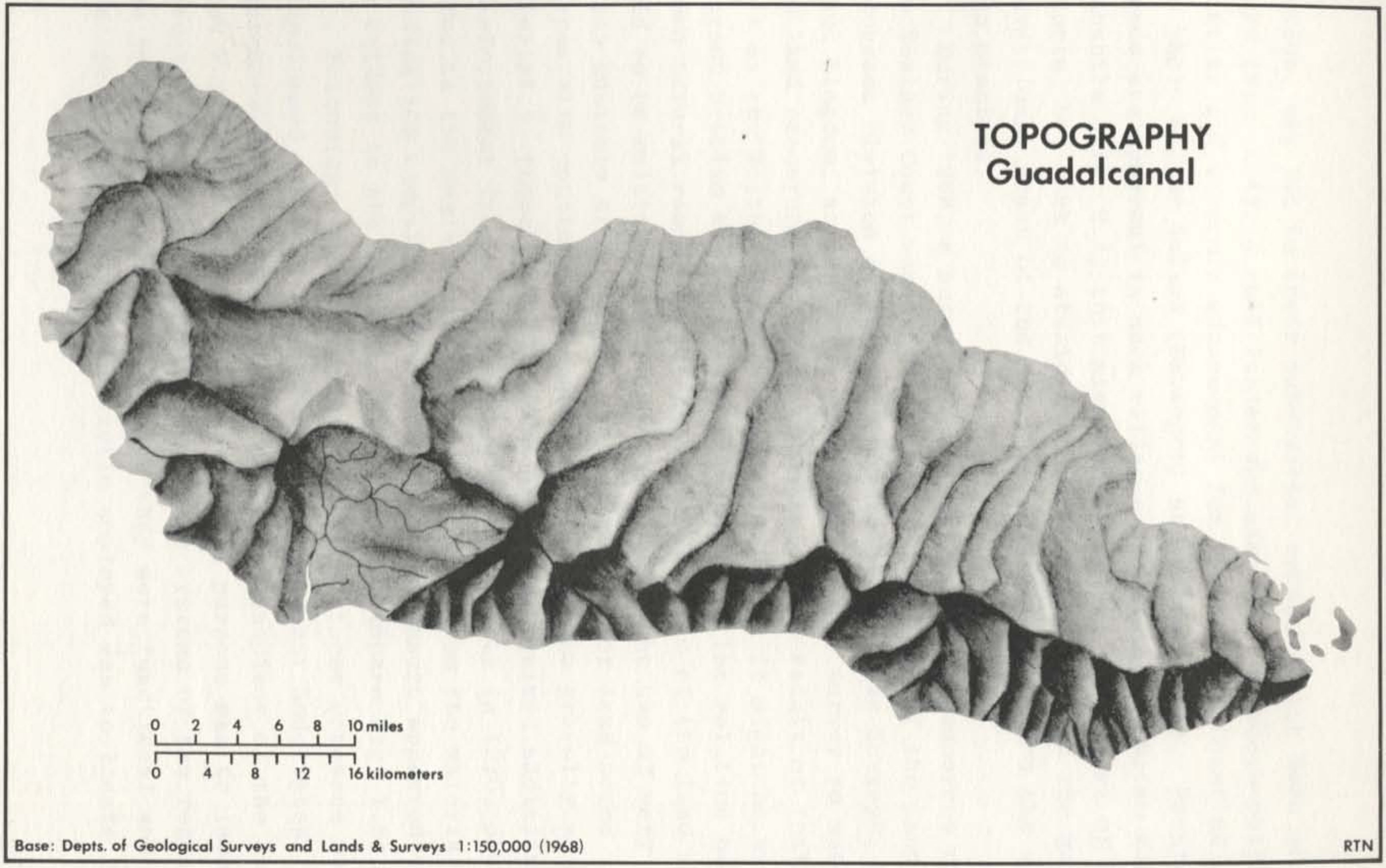
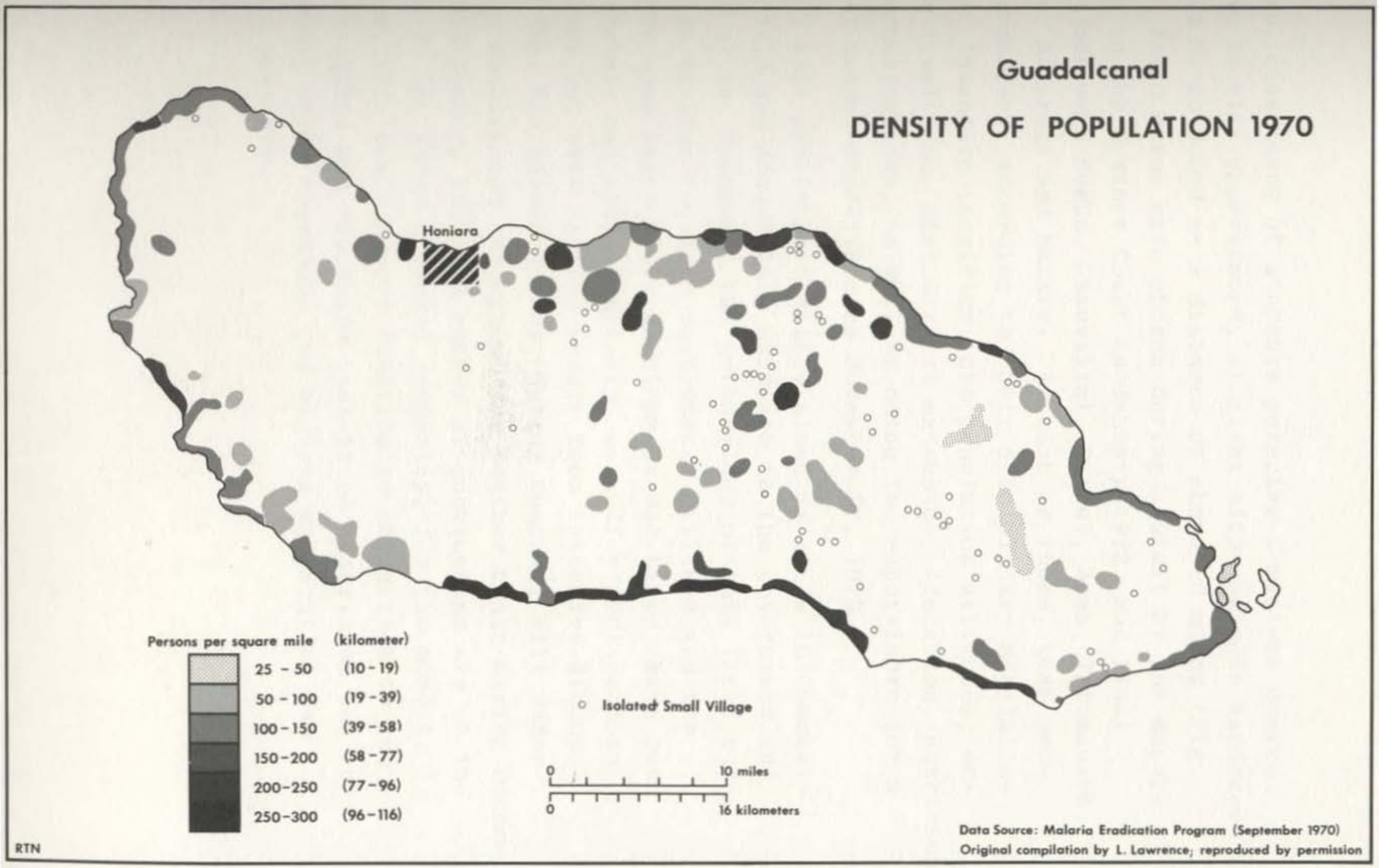

TOPOGRAPHY
Guadalcanal
0 2 4 6 8 10 miles
0 4 8 12 16 kilometers
Base: Depts. of Geological Surveys and Lands & Surveys 1:150,000 (1968)
RTN

Figure 1.2



Guadalcanal
DENSITY OF POPULATION 1970
Honiara
Persons per square mile (kilometer)
25 - 50 (10 - 19)
50 - 100 (19 - 39)
100 - 150 (39 - 58)
150 - 200 (58 - 77)
200 - 250 (77 - 96)
250 - 300 (96 - 116)
Isolated Small Village
0
10 miles
0
16 kilometers
Data Source: Malaria Eradication Program (September 1970)
Original compilation by L. Lawrence; reproduced by permission
RTN

workers, consisting of students pursuing a masters degree and two faculty supervisors, at eight sites between Wanderer Bay and Marau Sound -- a distance of about 90 miles (Fig. 1.4). Field sites were chosen during a visit by the supervisors to the Weather Coast in January 1972, and final selections were Sughu, Ghauvalisi, Duidui, Aona, Vatumanivo, Avuavu, Makaruka and Hatare. At each of these, team members undertook, according to their disciplinary specialisations, intensive inquiries into population attitudes, economic livelihood, agricultural extension, education, nutrition and communications, as well as being the supervisors for a project census undertaken on November 27, 1972.

In this preliminary draft, aimed as it is to communicate field and documentary evidence to the government and people of the Solomons, the methodology of this field survey, the various research instruments utilised and the criteria upon which their development was based, have been deliberately omitted. Similarly, no policy implications are drawn but will instead result from intensive discussions that the senior author, Murray Chapman, will undertake in Honiara and throughout the Weather Coast during December 1974-January 1975. A number of conclusions are of interest to the wider academic community; for the moment, however, this draft report fulfills an obligation to the administration who requested that it be undertaken and to the people whose courteous and willing cooperation has made it possible.

Figure 1.4


GUADALCANAL
160°00'E
160°30'
9°30'
10°00'S
0 2 4 6 8 10 miles
0 4 8 12 16 kilometers
VISALE
Honiara
TENARU
Aola
TANGARARE
Weather Coast
Sughu
Wanderer Bay
Ghauvalisi
MAKARAKOBURU 2330m
POPOMANASEU 2330m
Duidui
Aona
Vatumanivo
Calm Weather
KAICHUI 1920m
AVU AVU
Haimarao
Weather Coast
Makaruka
MAKINA
Hautahe
Marau Sound
NW
SE
British Solomon Islands
Papua New Guinea
GUADALCANAL
New Hebrides
Australia
Main Town
Village
Mission Station
Anchorage for SE/NW Season
Main Peak
Road
Tractor Trail
Airstrip
Base: Depts. of Geological Surveys and Lands & Surveys 1:150,000 (1968)

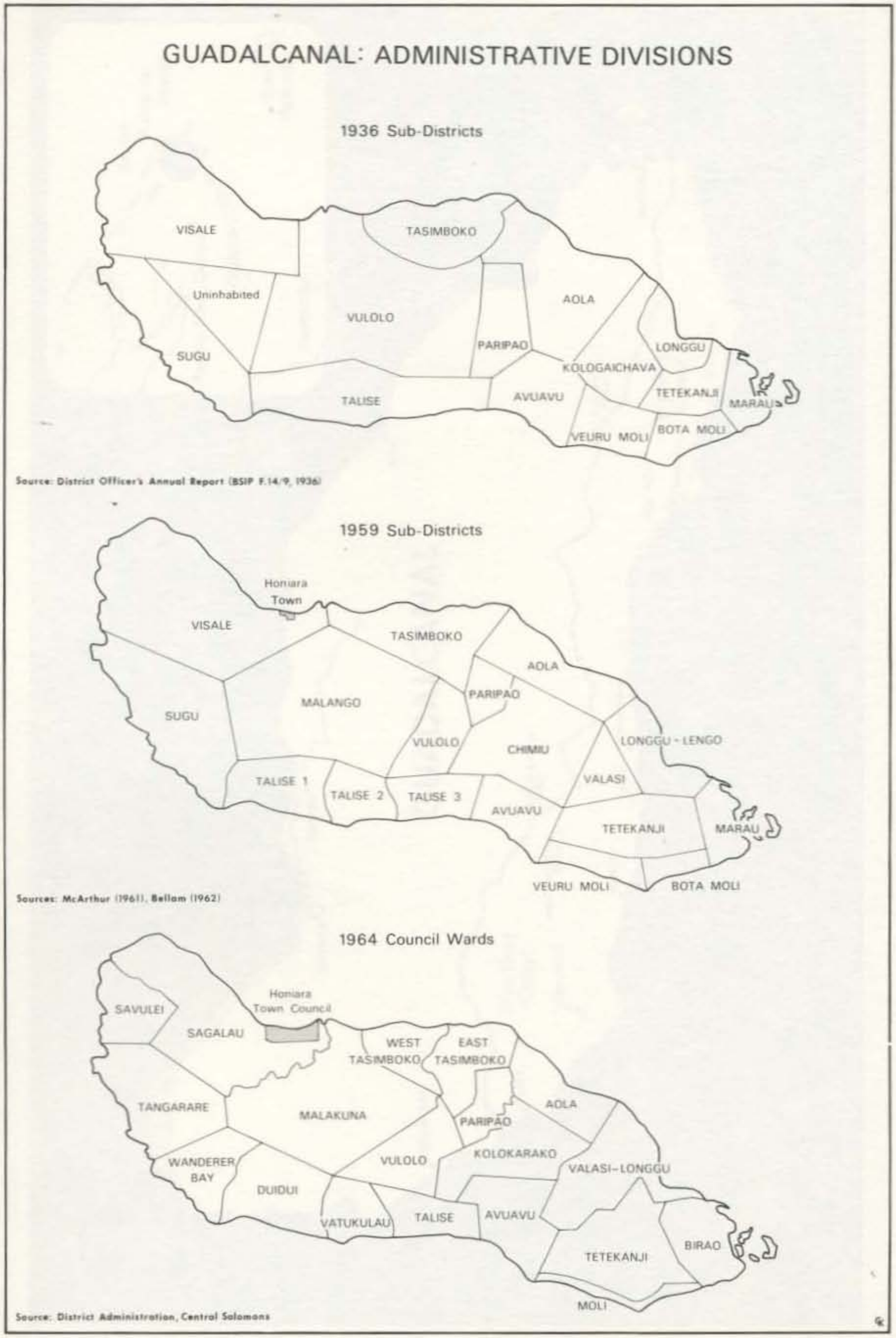

GUADALCANAL: ADMINISTRATIVE DIVISIONS
1936 Sub-Districts
VISALE
TASIMBOKO
Uninhabited
VULOLO
AOLA
SUGU
PARIPAO
LONGGU
KOLOGAICHAVA
TALISE
AVUAVU
TETEKANJI
MARAU
VEURU MOLI
BOTA MOLI
Source: District Officer's Annual Report (BSIP F.14/9, 1936)
1959 Sub-Districts
Honiara
Town
VISALE
TASIMBOKO
AOLA
PARIPAO
MALANGO
SUGU
VULOLO
CHIMIU
LONGGU - LENGO
VALASI
TALISE 1
TALISE 2
TALISE 3
AVUAVU
TETEKANJI
MARAU
VEURU MOLI
BOTA MOLI
Sources: McArthur (1961), Bellam (1962)
1964 Council Wards
Honiara
Town Council
SAVULEI
SAGALAU
WEST
TASIMBOKO
EAST
TASIMBOKO
TANGARARE
MALAKUNA
AOLA
PARIPAO
KOLOKARAKO
WANDERER
BAY
VULOLO
VALASI-LONGGU
DUIDUI
VATUKULAU
TALISE
AVUAVU
BIRAO
TETEKANJI
MOLI
Source: District Administration, Central Solomons

Figure 1.5

PART II

THE PEOPLE

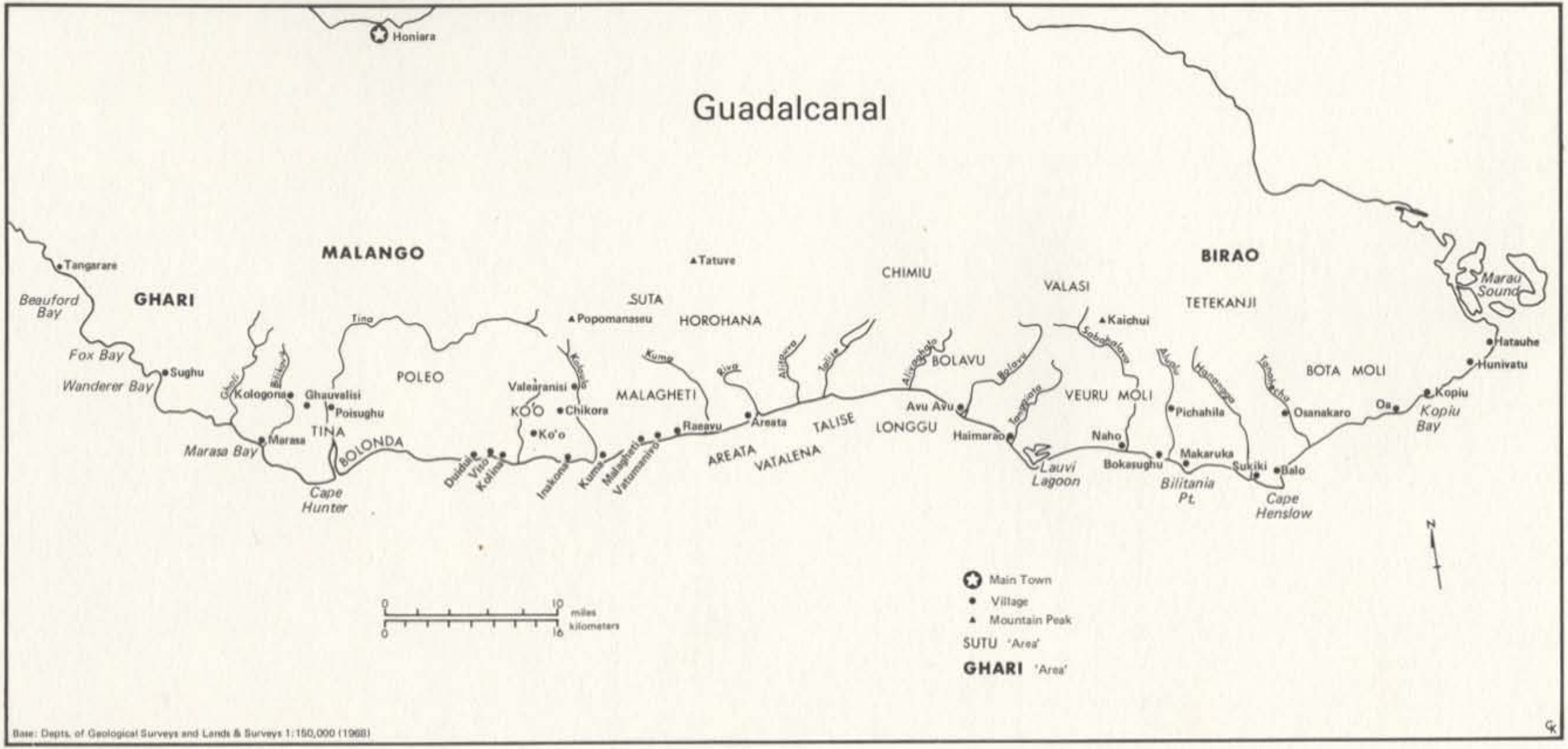

Guadalcanal
Honiara
MALANGO
GHARI
Tangarare
Beaufort Bay
Fox Bay
Sughu
Wanderer Bay
Kologona
Ghauvalisi
Poisughu
Marasa
Marasa Bay
TINA
BOLONDA
Cape Hunter
Tina
POLEO
Valearanisi
KOO
Chikora
Ko'o
Duidui
Vito
Kolina
Inakona
Kuma
Malagheti
Vatumanivo
Raeavu
Areata
SUTA
Tatuve
Popomanaseu
HOROHANA
MALAGHETI
AREATA
VATALENA
TALISE
LONGGU
CHIMIU
BOLAVU
Avu Avu
Haimarao
Lauvi Lagoon
VALASI
Kaichui
VEURU MOLI
Naho
Bokasughu
Pichahila
Makaruka
Bilitania Pt.
BIRAO
TETEKANJI
BOTA MOLI
Osanakaro
Sukiki
Balo
Cape Henslow
Oa
Kopiu
Kopiu Bay
Hunivatu
Hatauhe
Marau Sound
N
0
10
miles
0
16
kilometers
Main Town
Village
Mountain Peak
SUTU 'Area'
GHARI 'Area'
Base: Depts. of Geological Surveys and Lands & Surveys 1:150,000 (1968)

Figure 2.1

Chapter 2
POPULATION DISTRIBUTION AND VILLAGE RELOCATION 1870-1950

Social Organization

A reconstruction of population patterns before Western contact cannot be attempted without some understanding of the social organization and ritual behavior of the Weather Coast, because of its implications for traditional warfare and, nowadays, for land rights, marriage patterns and kinship relationships. As has been found elsewhere in Melanesia, the established pattern of social organization for the Weather Coast, excluding Marau, is based on two matrilineal, exogamous moieties (rau).[1] These rau are the Garavu or Lakuili (eagle) and the Manukiki or Kidipali (hawk) (Wright, 1932:115; Forster, 1950:April). In the hierarchy of social organization, clans or raundakedake are the sub-units within the moieties. In certain areas, some of these clans seem to have gained sufficient influence and numbers to move to the uppermost level of the social organization hierarchy and, for the purposes of marriage and land inheritance, are considered to possess a status similar to the moieties (Allan, 1957:65). In the west, extending from the north of Wanderer Bay to Cape Hunter (Fig. 2.1), there are three exogamous matrilineal groupings with moiety status: Lakuili, Kidipali, and Kakau. East of Cape Hunter, there are various locality-specific groupings of different clans within the moieties. For example, in Talise, there are thirty-four clans within the Manukiki and thirty-two in the Garavu (Wright, 1932:115). Here, also, clans have risen to the

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[1] There appears to be some controversy in anthoropological circles as to the meaning and reality of the moiety pattern. The writer is not concerned here with the details of such debate, particularly since the social organization of most peoples of the Weather Coast has not yet been subjected to intensive anthropological study. What follows is merely an attempt to summarize the current state of knowledge.

*By Judith A. Bennett, assisted by Richard N. Naito highest status for the purposes of marriage and inheritance. Within Talise, three clans have fused to form the Garavu _vetale_ or Garavu "half line", which ranks with the moieties [2] (Allan, 1957). Similarly, the Koinaghau clan of Moli (within the Manukiki moiety:Chapman, 1970:30) and the Ghaubata in Malango and Vulolo areas (Fig. 2.1) exemplify this process.

The naming principal of these matriclans appears to vary over space and time. Often clans take their names from a locality, as around Duidui, while near Makaruka they take birds' names (Hogbin, 1937:67). Hogbin (1937:69) states that the territory owned by a clan covers about one square mile and, while this preserves continuity in one location in traditional times, various factors such as warfare, the dying out of a clan, and natural disasters probably caused substantial variation.

Throughout the Weather Coast (excluding Marau), the Garavu or Lakuili _rau_ appears to have been the dominant moiety for the past seventy or eighty years and is certainly the most numerous at present.[3] Traditionally, as the moieties are strictly exogamous, death was the reward for an incestuous relationship or "breakem line". However, enraged public sensibilities could be placated sometimes by the payment of compensation. District Officer Leonard Wright (1932:117) stated: "A significant point is that with the "Garavu" an offender, if capable of paying a huge fine, had to endure a ritual of spear throwing which was so managed that with ordinary skill, he could ward off the spears or escape with slight wounds."

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[2] In Pidgin, "line" is the word to express moiety and is used as such hereafter.

[3] In the project census taken on 27 November 1973 (see Chapter 3), the Garavu and Lakiuli constitute 25.5 and 14.6 per cent respectively of the _de jure_ population (_de facto_ 29.4 and 13.9 per cent).

This type of social organization has and had implications for both land rights and warfare. As the clans are matrilineal, an individual has rights to his mother's clan or sub-clan lands and generally moves to these lands from his father's village when he attains manhood and marries. As clan membership defines relationships within the clan, no matter what the location, members of the same clan whose villages were at war did not kill each other (Forster, 1950:March 10).

In Bota Moli, from Hunivatu east and including Marau (Fig. 2.1), a different social organization is found among the people, the 'Are'Are, who originated in Malaita. As early as the sixteenth century, these people had connections [4] with the Longgu district (eastern Guadalcanal) and the Marau islands (103; Amherst and Thomson, 1901:xl-xli, 339-45; Forster, 1950:March 30). These links probably grew out of trade partnerships strengthened through marriage (Hogbin, 1964:47-50). The 'Are'Are people did not settle the Weather Coast mainland in numbers until about 1865 when a village was established in Bota Moli at Hunivatu (103; Fig. A7). As on Malaita, the 'Are'Are of the Weather Coast are ambilineal, with the patrilineal descendants of group or clan founders having jural dominance for certain purposes. Land inheritance is patrilineal (Scheffler, 1971:277). From Hunivatu east, these people group themselves according to one of the nine canoes that first brought their paternal ancestor to a particular area, which now bears its name: Hanuasuasu, Manunairoa, Varaihanua, Hiuainamae, Utsutaimarau, Merainaonaokera, Apiuraromoa, Tarakau, and Pakearivu (103).

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4 The evidence for much of this chapter derives from taped interviews of 106 informants, whose names and home villages are listed in Appendix B. Each of these Weather Coast people is also identified by a number in Appendix B, which provides the basis for reference to them through the text.

There is a unit of social organization larger than the clan on the Weather Coast, namely the "tribe" (Allan, 1957: 62) or polity, which usually reflects common territory, language [5] and culture. A polity consists of all or most of the clans in a particular area that act and perceive themselves as a unit (Langness, 1971:923). Based upon the project census a polity appears to comprise approximately 400 people, although these groupings may be widening with the influence of centralized government (Allen, 1957:63).

Local politcal leadership to a large extent centers around the "big man". This individual, through his ambition and personality, builds up a group of followers at least among his clan, and by economic manipulations (such as financing bride price fo young men), whereby those people become indebted to him (Hogbin, 1967:62-71). With a "creation of followship," (Sahlins, 1963:290), he achieves status. By giving feasts and, traditionally, dance entertainments, he can gain further prestige by putting more people in his debt. Certain qualities in a "big man" are particularly admired in Guadalcanal: ". . . it is essential that he be forceful, even-tempered, tactful, industrious, a good speaker, and an able organizer" (Hogbin, 1964:63).

Hogbin (1964) notes on the basis of fieldwork undertaken in northeast Guadalcanal during the early thirties, that in earlier times there were also advantages in being a famous warrior and magician. This was certainly the case for the Weather Coast

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5 There are eight dialects spoken on the Weather Coast. All are mutually intelligible, but the intelligibility is greatest between speakers of adjacent dialect areas. (Chapman. 1970:32, 33).

(54;68). However, there also existed fight leaders or warrior generals who led bands of wandering mercenaries (malaghai) whose services could be hired for assassinations and warfare. Thus, a wealthy "big man" who was not a warrior had a chance to punish his enemies and eliminate competitors [6] (42;68; Hogbin, 1964:59).

Today, of course, the "big man" has additional means, of achieving status. He may, for example, leave his village for some years as a young man and work on a plantation, thereby accruing money with which he can create indebtedness in others. He may also gain authority through his role as a Christian pastor or mission teacher, while the area of legislation can be extended in co-operation with others through the local government council and native courts. However, the fundamental characteristics of "bigmanship" still continue.

The contemporary "big man" does not have any kind of absolute authority over his followers, but is rather a respected primus inter pares. Should he ask too much of his followers in terms of work in the gardens and give back too few wealth objects or even too little renown, then his prestige lessens and he eventually loses followers and power to another aspiring "big man". In pre- and early contact times "big men", if overly exploitive of their followers, were frequently murdered by hired assassins. Similarly, if a "big man" became too powerful by extending influence beyond his district, then he was likely to arouse the fear and jealousy of other "big men". In the main, he probably wielded relatively more absolute authority in pre-contact times than nowadays as he could call on his warriors to kill dissident elements or, if necessary, he could hire assassins for this purpose. However, being vulnerable to the same mechanisms himself made this a risky procedure. Some of these warriors

[6] For example see Wilson, (1932:215).

were cheka.[7] In their attempts to create a followership, many "big men" took extra wives, orphans and other unattached people. They also purchased cheka, for prices that varied from ten strands of red shell money to one or two basketfuls (eight inches deep by fifteen to eighteen inches diameter)(24;68). After the death or decline of the "big man", cheka dispersed as did his other followers, some of whom returned to their original homes whereas others stayed on in the district of the "big man" and became members of the "tribe". As allegiances to a new "big man" formed, clustering of his clan and their relatives by marriage commenced in his village (24,44,68).

Religion and Sorcery

In pre-contact times, religious ritual centered on the veneration of ancestral spirits or Tindalo (Codrington, 1891:124-5). These ancestors, in life, were persons of great renown and power, able to wield much nanama.[8] Shrines dedicated to these spirits were set aside, and in them relics of the departed were placed. There sacrifices were made in the hope that the Tindalo would assist in the ventures of the living. Priests of each "line" conducted the ritual associated with sacrifices and the veneration of the Tindalo.

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7 The closest word for cheka in English is "slave", yet this does not convey the meaning that some cheka, at least, could attain villager status, marry, and use land within a community. Additionally, a few inherited some of the prestige of the "big man" if, of course, they had the requisite personal attributes. Weather Coast cheka were sometimes bartered for canoes from the Savo. island people, with male and female children and adults being purchased. Both sexes were of use in gardening, while the men made good warriors and the women possibly sometimes acted as prostitutes. Cheka were bought by "big men" from "big men" in districts miles away--thus Kearae'a, the mother of Moro, in Makaruka (Fig. 2.1), was sold by a Vatalena "big man". Cheka had to obtain the "big man's" permission to marry (24;44;64;68).

8 This is the equivalent of mana; see Hogbin (1964:72-3, 88-9).

Shark spirits were also worshipped along the coast of Guadalcanal, sacrifices being made at the beginning of the bonito season (about October-November). Individuals had personal shark guardians who protected them at sea and warded off other marauding sharks. In some areas, particularly in the bush, snake spirits were revered in a similar way (54; Hogbin, 1964:77-9).

On much of the Weather Coast traditional beliefs have, to varying degrees, been supplanted by Christianity or, at least, a synthesis of new and old. Of continuing significance is the belief in the efficacy of sorcery, notably vele and piro. The former is said to have been introduced from the Russell Islands (Fig. 1.1). A vele man, after a long period of apprenticeship and usually from a maternal uncle, possesses a small bag containing various items that include parts of a mango and ginger (Ivens, 1927:292). When the intended victim is alone and away from his village, the vele man overtakes him and moves the bag in front of his face. The victim becomes unconscious and the vele man inserts the bag in the victim's mouth while he pushes a sting-ray spine under each toe and fingernail (Hogbin, 1964:56). The following formula is said by the vele man: "In the three days the mango will ripen, the dogs will bark and you will die." Retrieving the bag from the person's mouth, the vele man leaves the victim, who recovers, forgets the episode and returns to his village, where he dies after three days have elapsed (Paravicini, 1931:117; Ivens, 1927:293).

Unless counter sorcery is made, death always follows the vele attack; fire and water can also neutralize vele. If a burning torch is carried by the intended victim, the vele man will not attack him. Should the vele man laugh or be seen by a third person while performing the vele, the sorcery would be useless. If the victim were a woman and the vele man attempted to have sexual intercourse, the vele power would also be neutralized (Hogbin, 1964:57; Paravicini, 1931:117).

Vele is said to have been known and practised only on the north and west coast of Guadalcanal until about 1830, but has since spread through the bush to the south coast. There, the original type of sorcery was a contagious magic, piro, which is said to have come from the Moli area (Fig. 2.1). With piro, anything of the victim's person--such as hair, excreta and remnants of food--is taken by the sorcerer to his house where it is placed in a basket and the ritual performed (Wright, 1932: Dec. 23).

At the present time, both forms of sorcery are feared and believed to be the cause of most deaths on the Weather Coast (see Chapter 4). Because of fear of vele, in particular, Weather Coast people prefer to journey in groups of two or three, there is a special unwillingness to travel alone through the bush, and women never walk by themselves (partly because of the additional possibility of being accosted along the less frequented trails: Chapman, 1970: 156,164).

Reconstruction of Settlement Patterns about 1850

Unlike those of much of north coast Guadalcanal, Weather Coast villages were actually a series of string-out hamlets (Denham, 1854-5:20). Each hamlet consisted of about five houses clustered together. Paths connecting adjacent hamlets passed through land covered in undergrowth, betal nut and coconut groves (61; 84; 86; 88). The distance apart varied with the terrain, but usually averaged about 200-300 yards (182.8-274.2 meters) (Denham, n.d.) a distance which would have allowed shouts and conch shell blasts to be heard above the noise of the surf. The neat paths and tidy, ordered village areas of most of today's settlements are not traditional. In pre- and early contact times refuse from houses was thrown into the immediate vicinity, sometimes merely outside the entrance where foraging pigs could consume it. As enemy attacks were always a possibility, the strung-out arrangement of the coastal villages was strategically advantageous. If attacked, the inhabitants could raise alarm, thus giving their neighbors an opportunity to organize defense or flee (61; 84; 86; 88; Wilson, 1931:Jan.23).

The larger coastal villages had from 100-250 inhabitants (11), with bush villages generally smaller. A ten-household village (about thirty to forty people) was an average-sized settlement, although in some areas such as the bush hinterland of Avu Avu a six-household village was considered above average [9] (9; 28; 68; Boudard, 1921:560). Nonetheless, as has been reported for the Tina (27) and Tefekanji areas, (fig. 2.1), there were a few larger villages in the bush where terrain and resources allowed. These had twenty to forty houses or about 200 inhabitants, and one, Buturua (Fig. A6), reportedly had about 250 in 1897 (Chapman, 1966).

These villages were most commonly sited on a hilltop or crest of a mountain range, since defense considerations outweighed other difficulties of such locations (11; 18). This former pattern of settlement is evinced today by patches of coconuts (cocos nucifera), ngali nuts (Canarium indicium), and other vegetation peculiar to village sites dotting the crests. Although the villages were permanent settlements, they were not inhabited continuously throughout the year by all members. The pattern was dual residence--the komuruka [10] (village-hamlet) system--first described by Chapman (1970:60-73). The main village (komuto) was where all the people had houses and was the center of ceremonial activities. However, only the old people and those with large gardens nearby lived permanently in these villages. The majority had their main gardens at some distance from the komuto, a distance often inconvenient for daily walking. Thus, each family or sub-clan built a hamlet (libolibo) at its garden site and lived there during most of the yam planting and growing seasons (September to May or June), including the "hungry months"

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[9] See also Woodford (1889:481), for a Chimiu bush settlement.

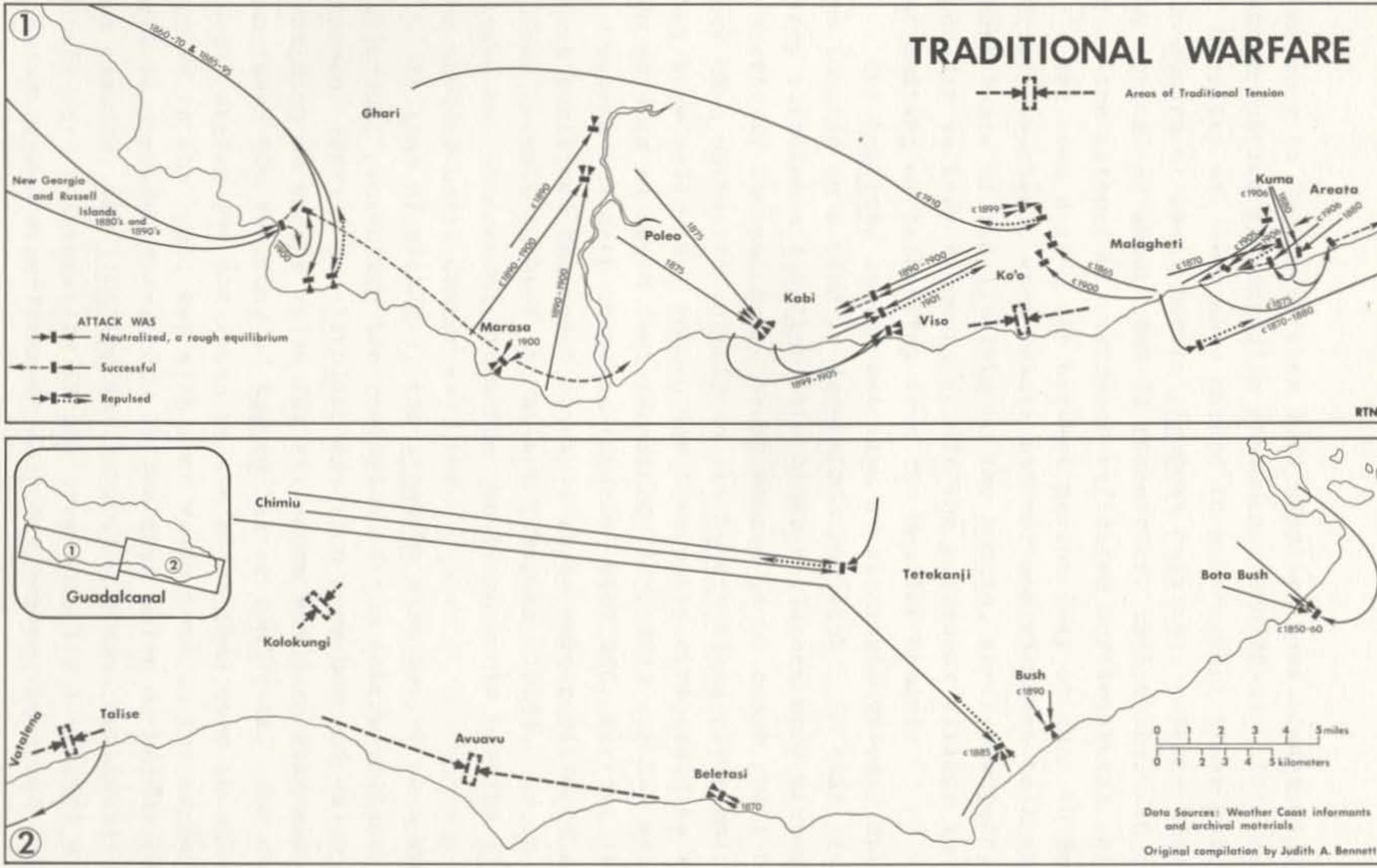
[10] Komuruka, literally two (ruka) places (komu); komuto, the stable, big village, komu (village), to (not to move around); and libiolibo, the transient hamlet: libo, not stay in one place, repeated for emphasis: (Chapman 1970:69-73).

(December to February) when food supplies most needed supplementing by hunting and foraging (Chapman, 1970:72-3). This period of scarcity was even more marked in pre-contact times before the kumara or sweet potato (Ipomoea batatas), a year-round crop, was introduced about 1860-70 (Scheffler, 1965:9-10). In general, then, the pattern of residence reflected horticultural activity.

Yet even during the harvest period (May or June to September or November), when feasts and ceremonials drew back the inhabitants of the libolibo to the komuto, their occupancy was sporadic as they frequently left the permanent village to stay out hunting or harvesting from the smaller hamlet.

The komuruka system was also of strategic value. The komuto was located in a readily defensible position. So that if an enemy attacked a libolibo, the other villagers were warned either directly by the escapees, or by shouts or by conch shell blasts. They then retreated quickly to the komuto along paths which only they knew well. The komuto was frequently surrounded by a stockade as high as seven feet (Woodford, 1889:481) and had across its approaches deep trenches (Raucaz, 1907:266; Bertin, 1910:632) which contained sharpened sticks. These were positioned and forces grouped to meet the attack (Chapman, 1966). If an enemy attack was successful, then the survivors could use the libolibo for shelter until danger was over.

In time of sickness, the libolibo also served as a means of isolation, preventing the contagion of the entire village (41; 54; Chapman, 1966). The libolibo may also have been of value in providing an escape valve for villagers who were quarrelsome or who found the tensions of komuto living too great. The dual residence system was not found on the coast (54) even though widespread in the bush, but with some variations to the prevailing pattern already described. In the bush north of Duidui (Fig. A3), for example, the libolibo was inhabited almost continually with the inhabitants congregating in one area--usually a village with particular sacred significance--only for feasts, (Chapman, 1966).



TRADITIONAL WARFARE
Areas of Traditional Tension
1
Ghari
New Georgia and Russell Islands
1880's and 1890's
1860-70 & 1885-95
Poleo
Kabi
Marasa
Viso
Ko'o
Malagheti
Kuma
Areata
ATTACK WAS
Neutralized, a rough equilibrium
Successful
Repulsed
RTN
2
Guadalcanal
Chimiu
Tetekanji
Bota Bush
Kolokungi
Bush
Talise
Vatalena
Avuavu
Beletasi
0 1 2 3 4 5 miles
0 1 2 3 4 5 kilometers
Data Sources: Weather Coast informants and archival materials
Original compilation by Judith A. Bennett

Figure 2.2

Traditional Reasons for Village Relocation

Warfare itself frequently caused village relocation. Before the advent of British centralized government, interdistrict warfare on the Weather Coast was a continual, if intermittent, feature of life and threat of enemy attack to some extent determined settlement patterns.

Warfare usually resulted from disputes over women (11; 22; 57), pigs, or land (9; 11; 36; 37; 40; 52; 54; 102). Vele and damage to gardens were other causes (72). About 1900, for example, the great Lakuili tauvia, Paura, of the Wanderer Bay region (Fig. 2.1), attacked the bush village of Tasule because its people injured his pigs, which were foraging in their gardens (9; Figs. A8-9).

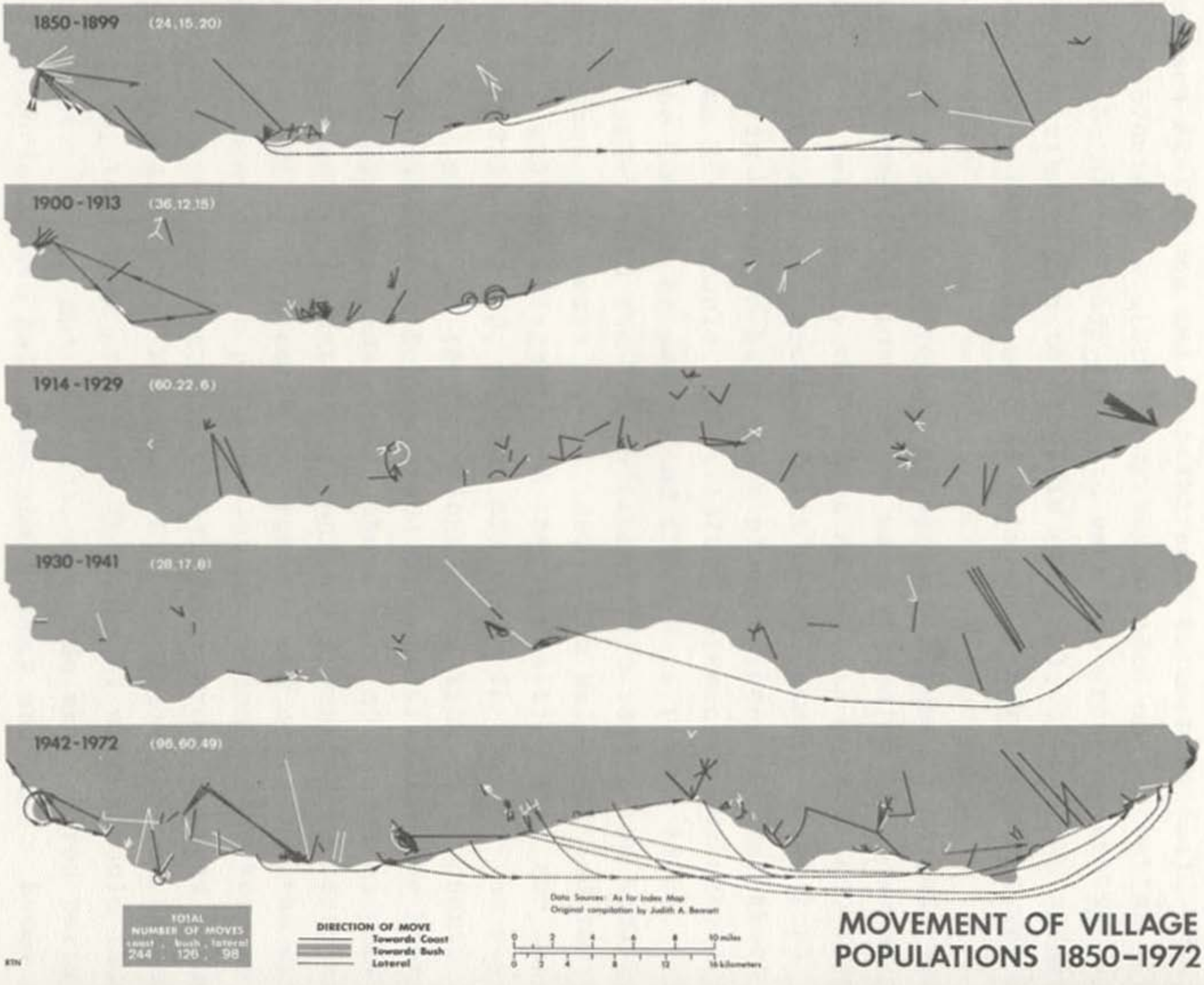
Typically, warfare on the Weather Coast was waged on a small scale. However, an exception was Paura, a "big man" who became one of the most powerful leaders of the Weather Coast, reaching a height of authority and organization that few men could attain (Woodford, 1899). Paura was able to call as many as 700 men together to fight the Tiaro bush people who attacked the Ravu-Avisi region in the 1880's (Fig. 2.2). Bertin (1928:552), the Catholic missionary, said of him: "This chief was the uncontested master of this part of the island and had driven back his enemies almost as far as Tiaro." (Translation from French).

Warfare on this scale was uncommon. The more usual is exemplified in the attack on Ngalipapa about 1860 (Figs. 2.2 and A10-11). The villages of the Kuma river bush mustered thirty to forty warriors and destroyed Ngalipapa whose people, being warned of the attack, had fled to Vatumanivo (49; 52; 53; Fig. A4). In one of the very few sea battles, also about 1860, the 'Are'Are Ramo (fighting chief), Vaisere, accompanied by fifty to sixty men in war canoes, sunk the smaller dug-outs of the bush-dwelling Bota near present day Hunivatu (103; Fig. 2.2).

Guerilla tactics prevailed. The sudden raid, two or three killings, burnings, and a quick retreat characterized warfare (11; 22; 52), although pitched formalized battles did occasionally occur in certain places, such as the open stretch of beach between Ngaluniuna and Kolokiki near Vatumanivo (54). When it was convenient, a slain enemy was divided up for eating, with a section of the body going to each sub-group or village that had contributed men to the raid (11; 22). Sometimes prisoners were taken and later sold as "slaves" (cheka) for red shell money (26).

Except for the overall antagonism between bush and "sand-beach", few generalizations can be made regarding the constancy of conflict between any two groups during the period 1860-1910. Taking the central Weather Coast as an example (Fig. 2.2), warfare is known to have taken place between the Malagheti and the Kuma River people (about 1870), between the Malagheti allied with the Kuma River people and the Areata (about 1875), between the Malagheti and the Talise (about 1870-1880), the Kuma bush people and the Areata (about 1880), the Malagheti and the Kuma (1905), and the Malagheti and the Kuma allied with the Areata (about 1906) (44; 49; 52; 53; 57; 68). In view of the way warfare was initiated, this continual variation of opponents is understandable. As Hogbin (1964:61) explains for the Kaoka of north eastern Guadalcanal, there were no vendettas because a group wanting to attack or punish its enemies employed the services of a third party to organize and carry out the military expeditions. Such a pattern also prevailed on the Weather Coast (42; 68; Wilson, 1932:215). Thus group A hired group B to attack A's enemy, C. Group C, in retaliation, hired another group, D, to attack group B. The quarrel with A would fade into the past. In any one conflict, one side was a hired party which, if victorious, was paid with shell money and pigs. Enemy and agent were not originally synonymous, but became so in the act of war.

There was, therefore, no continuing series of "payback" that sharply divided (and divides) groups as in the Highlands of Papua New Guinea (Hogbin, 1964). The fluidity of alignment



MOVEMENT OF VILLAGE POPULATIONS 1850–1972

Figure 2.3

PRIMARY REASONS
Movement of Village Populations 1850 - 1972

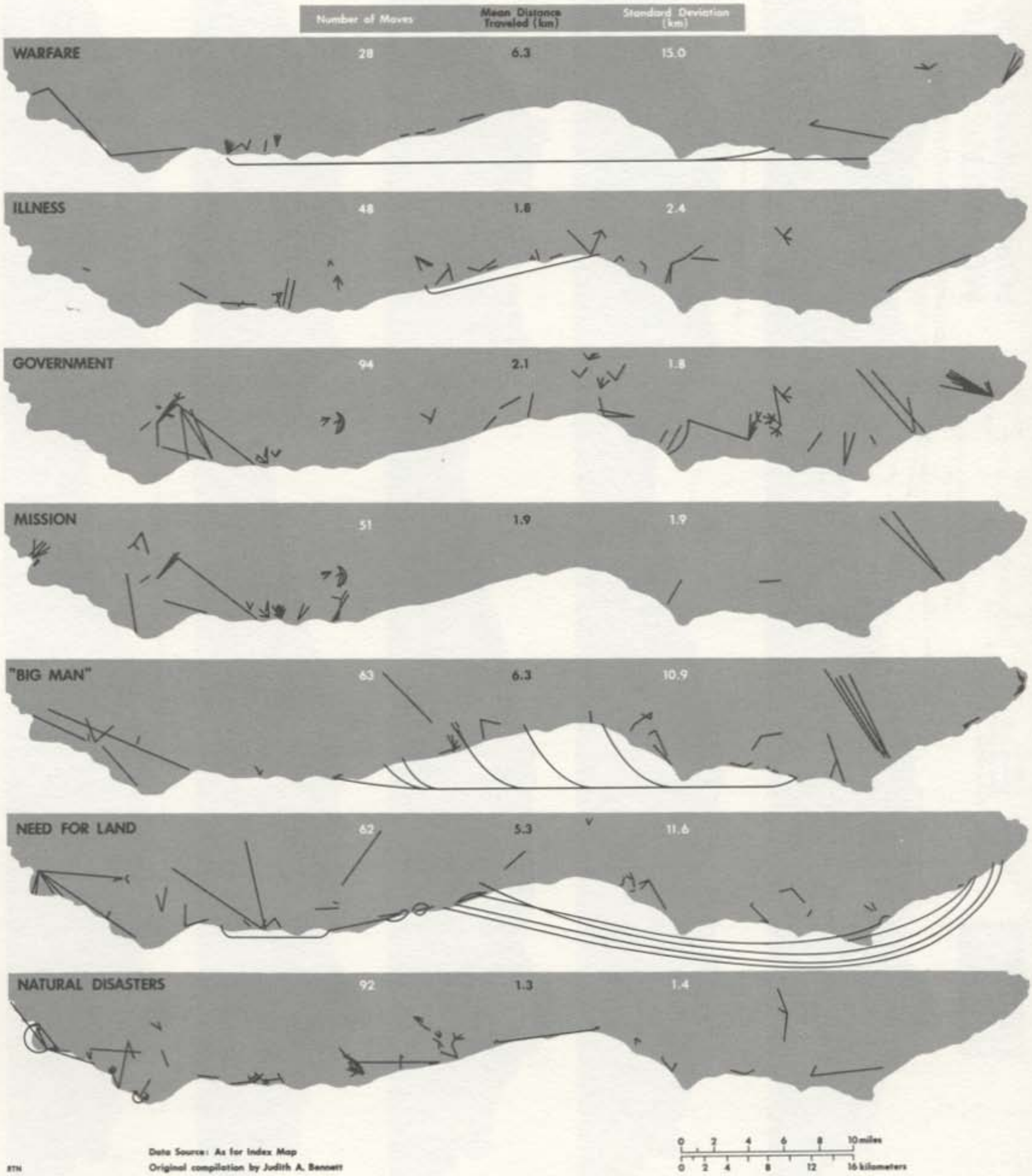


Figure 2.4

had obvious advantages: in peace time, mobility mediated through lineage kin was quite considerable (58; 61). Moreover, marriages were arranged over fairly extensive distances between Tetekanji and the Bota Moli beach (98), Marau Islands and Bota Moli bush (103), Sukiki and Malagheti (82), Malagheti and the Koloula bush (41), and between the Koloula River villages and western Guadalcanal (34; Fig. 2.1). Dance groups from Sukiki in the 1860's (82) and from Talise in 1910 were able to visit the Malagheti (NIV, 1910); Pite refugees from the attacks of the bush people made their way as far east as Bokasughu and Balo on foot about 1860-70 (84; 85; Figs. 2.3 and 2.4); and cheka outcasts from Wanderer Bay returned safely to their original homes in Talise about 1855 (64). Yet few groups were driven irrevocably from their home districts. Paura allowed the conquered Tiaro bush people back to their villages (Bertin, 1928:552), and the Tasule fugitives to return after peace offerings had been made (9; Figs. A8-9). Thus, while most movement that stemmed from warfare occurred over short distances, longer but less frequent moves lead to great variation in the amount of territory covered; as a result, the average distance travelled for 28 documented moves (6.3 km) camouflages more than it reveals (standard deviation 15.0 km: Table 2.1; compare Figs. 2.4 and A8-19).

Just as the majority of villages contained individuals of the same "line", so they also contained members of different "lines". Consequently a visitor was regarded as a potential threat by those village inhabitants not of the visitor's "line". For example, visitors might be kinsmen of a villager arranging a marriage, and at the same time might be spies hired to eventually attack the village. On another level, they might be hired by some of the villages themselves to kill a tauvia or "big man" who was resented. This pervading feeling of suspicion and distrust was a very real aspect of politics on the Weather Coast (42; 68) and still persists today in some areas.

Table 2.1

FREQUENCY AND DISTANCE OF MOVEMENT 1850-1972

by PRIMARY REASONS

Primary Reason	Number of Moves	Mean Distance Travelled (km/)	Standard Dev (km/)
Warfare	28	6.3	15.0
Need for land	62	5.3	11.6
Natural Disasters	92	1.3	1.4
"Big Man"	63	6.3	10.9
Illness	48	1.8	2.4
Government	94	2.1	1.8
Mission	51	1.9	1.9

Total Number of Moves: 438

Data Source: Figures A8-A19

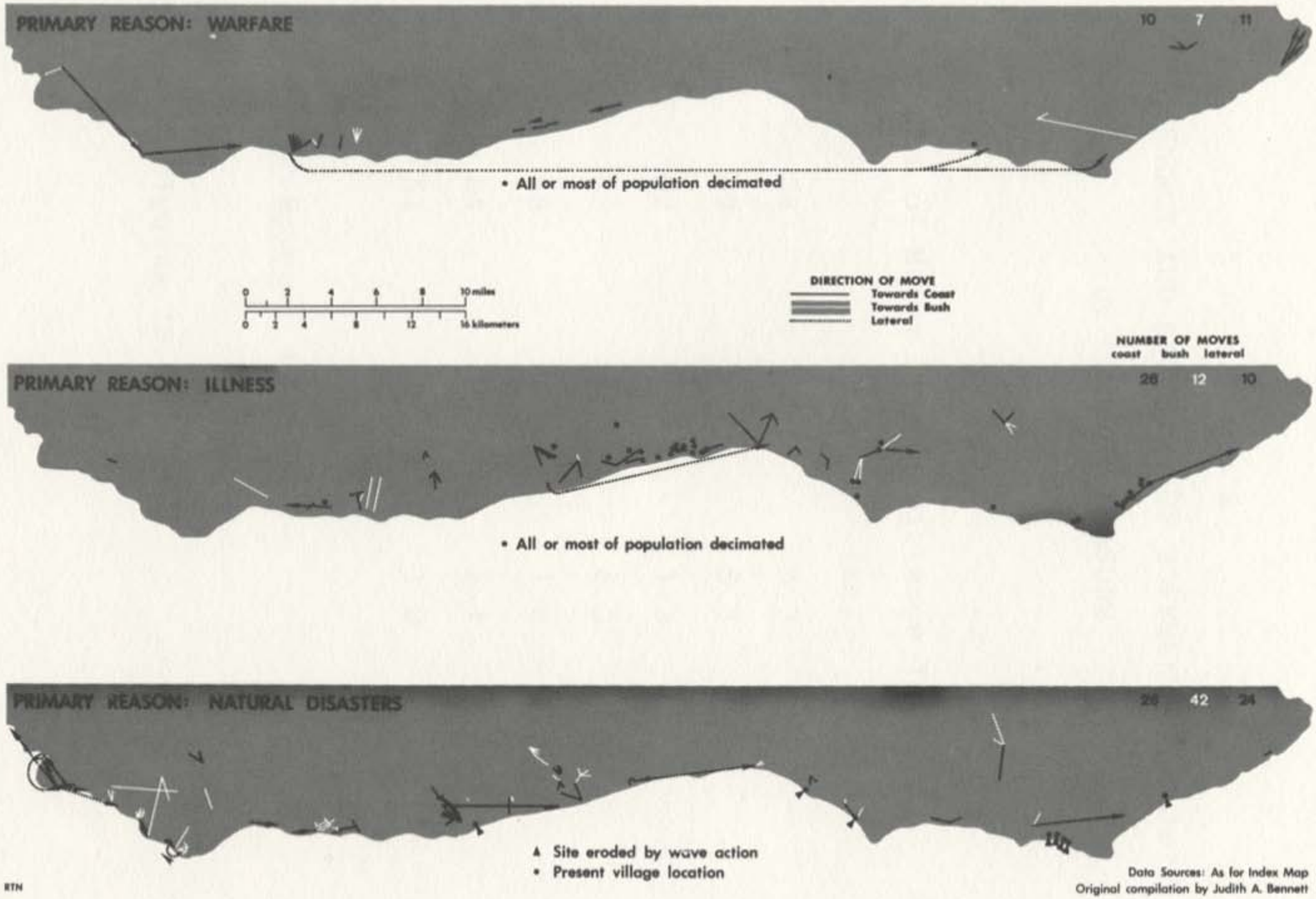

PRIMARY REASON: WARFARE
10 7 11
• All or most of population decimated
DIRECTION OF MOVE
Towards Coast
Towards Bush
Lateral
0 2 4 6 8 10 miles
0 2 4 8 12 16 kilometers
NUMBER OF MOVES
coast bush lateral
PRIMARY REASON: ILLNESS
28 12 10
• All or most of population decimated
PRIMARY REASON: NATURAL DISASTERS
28 42 24
▲ Site eroded by wave action
• Present village location
Data Sources: As for Index Map
Original compilation by Judith A. Bennett
RTN

Figure 2.5

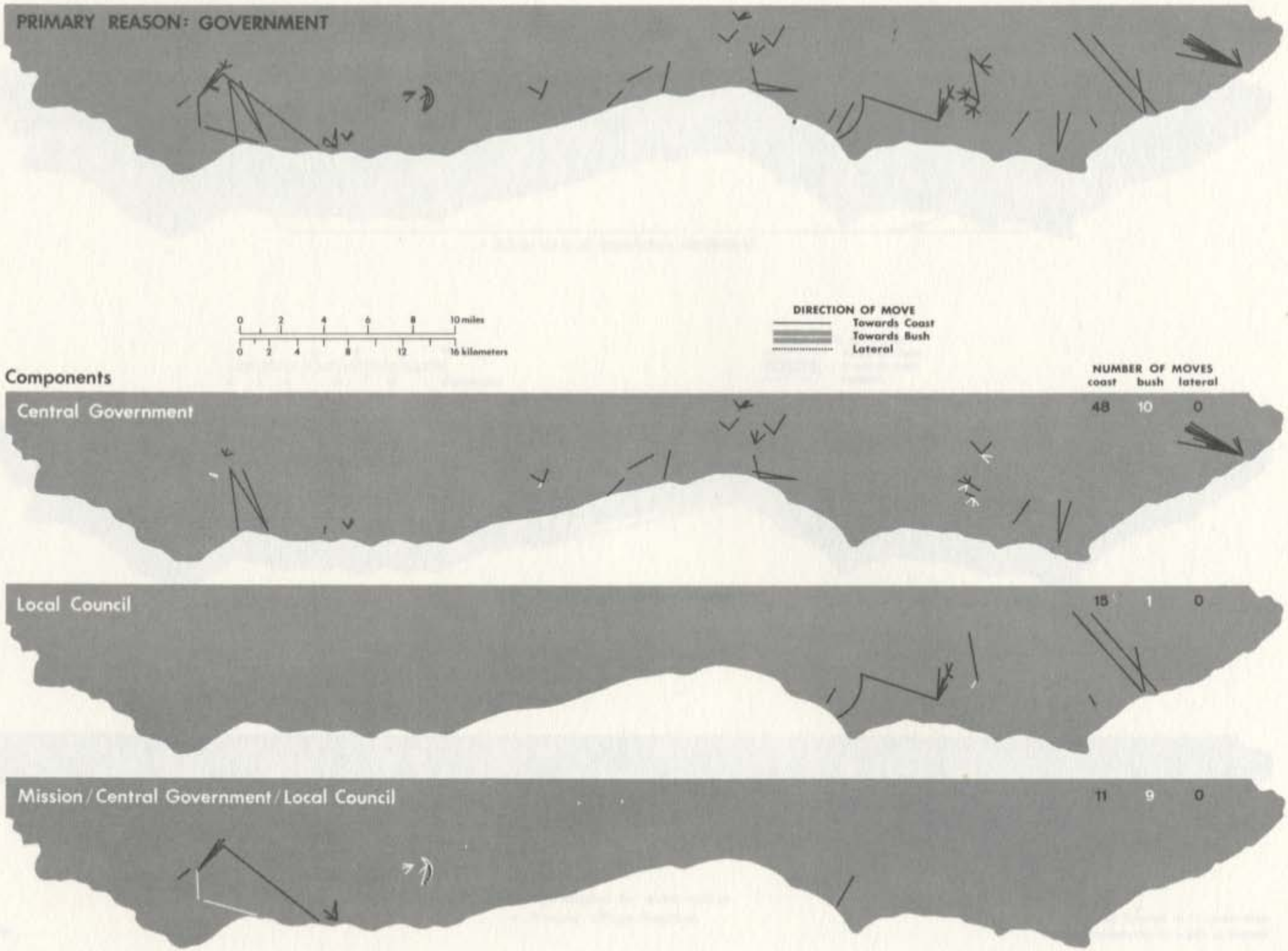
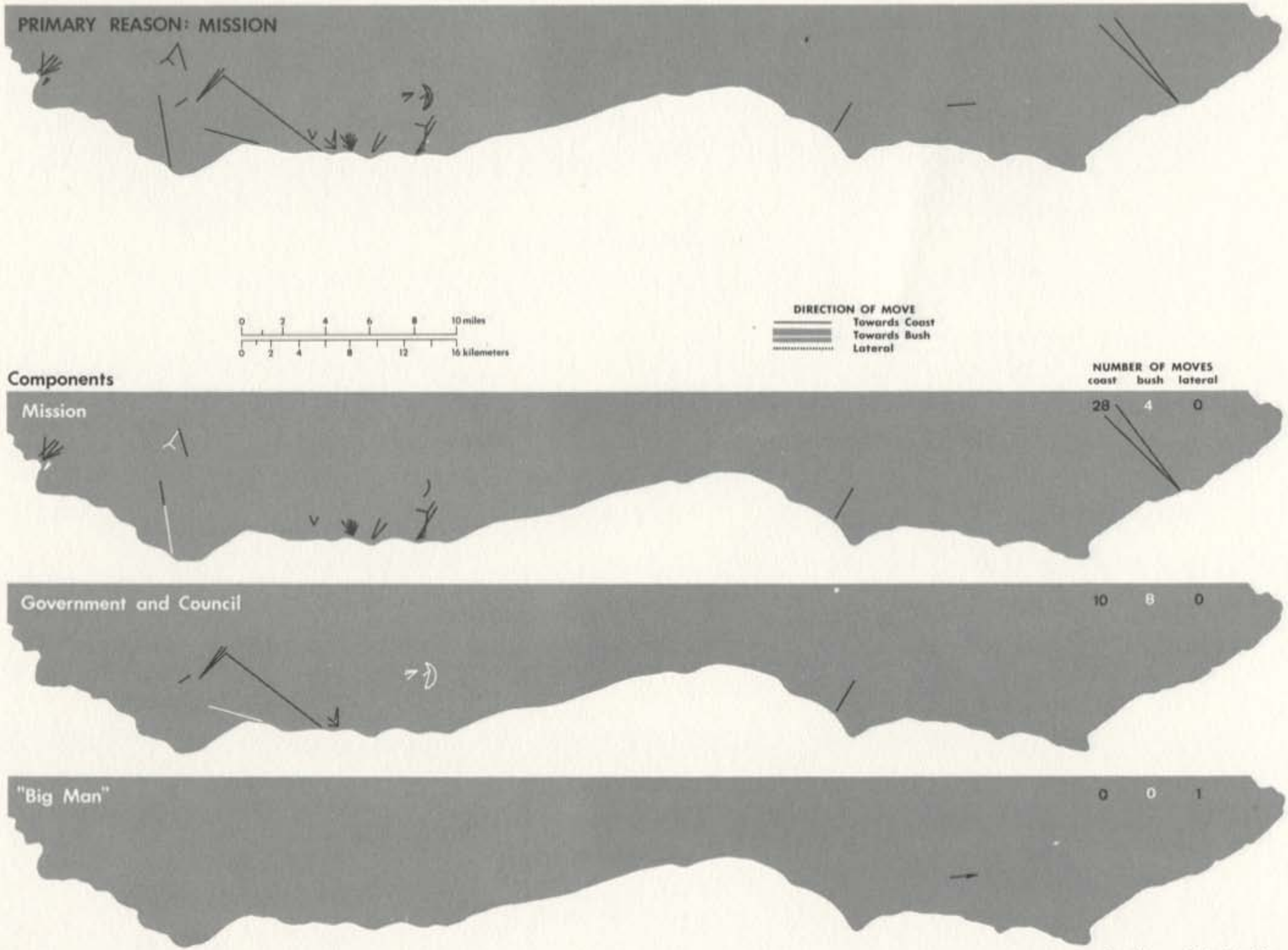


Figure 2.6

Data Sources: As for Index Map
Original compilation by Judith A. Bennett

RTN



Data Sources: As for Index Map
Original compilation by Judith A. Bennett

RTN

Figure 2.7

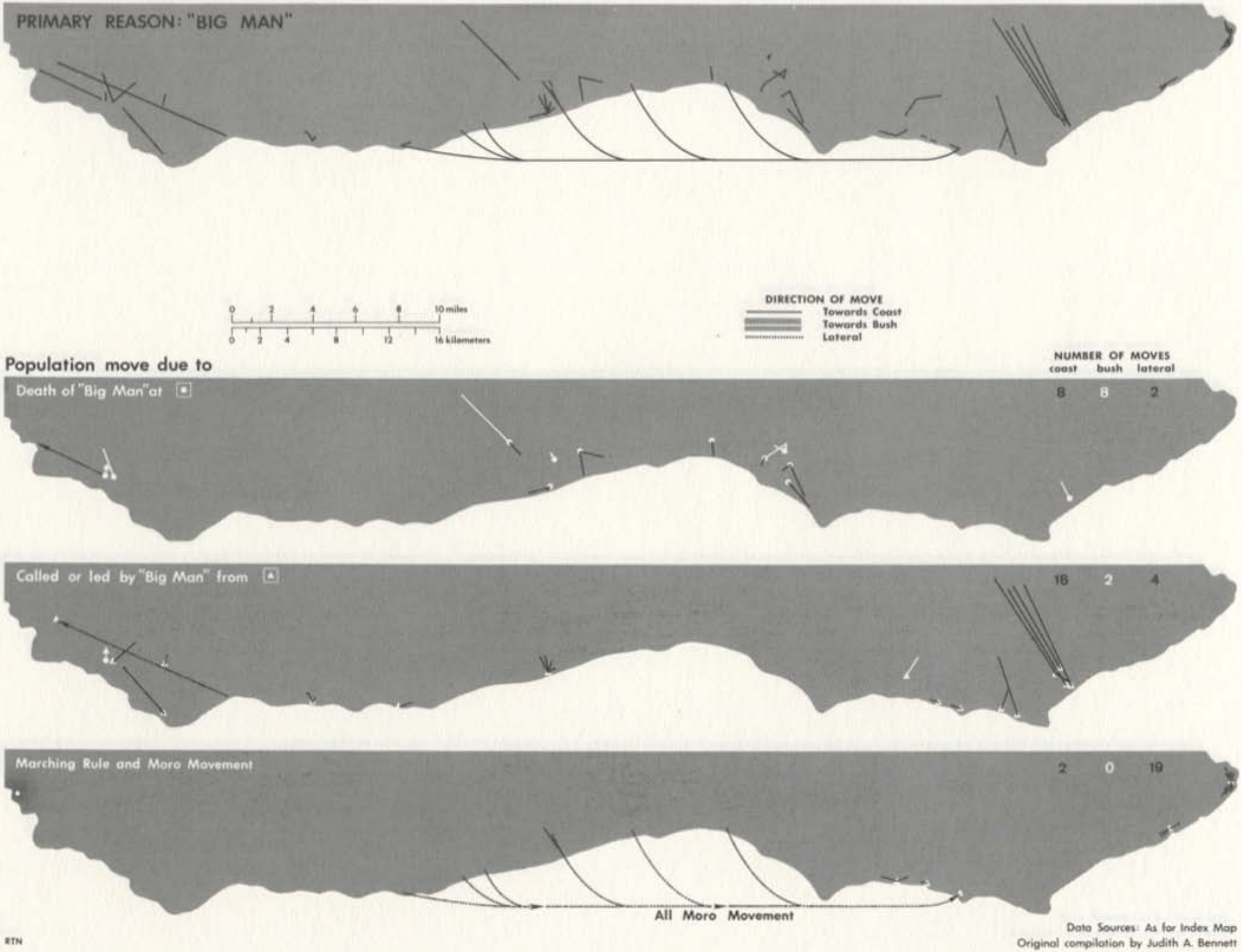

PRIMARY REASON: "BIG MAN"
0 2 4 6 8 10 miles
0 2 4 8 12 16 kilometers
DIRECTION OF MOVE
Towards Coast
Towards Bush
Lateral
Population move due to
NUMBER OF MOVES
coast bush lateral
Death of "Big Man" at
8 8 2
Called or led by "Big Man" from
18 2 4
Marching Rule and Moro Movement
2 0 19
All Moro Movement
Data Sources: As for Index Map
Original compilation by Judith A. Bennett
RTN

Figure 2.8

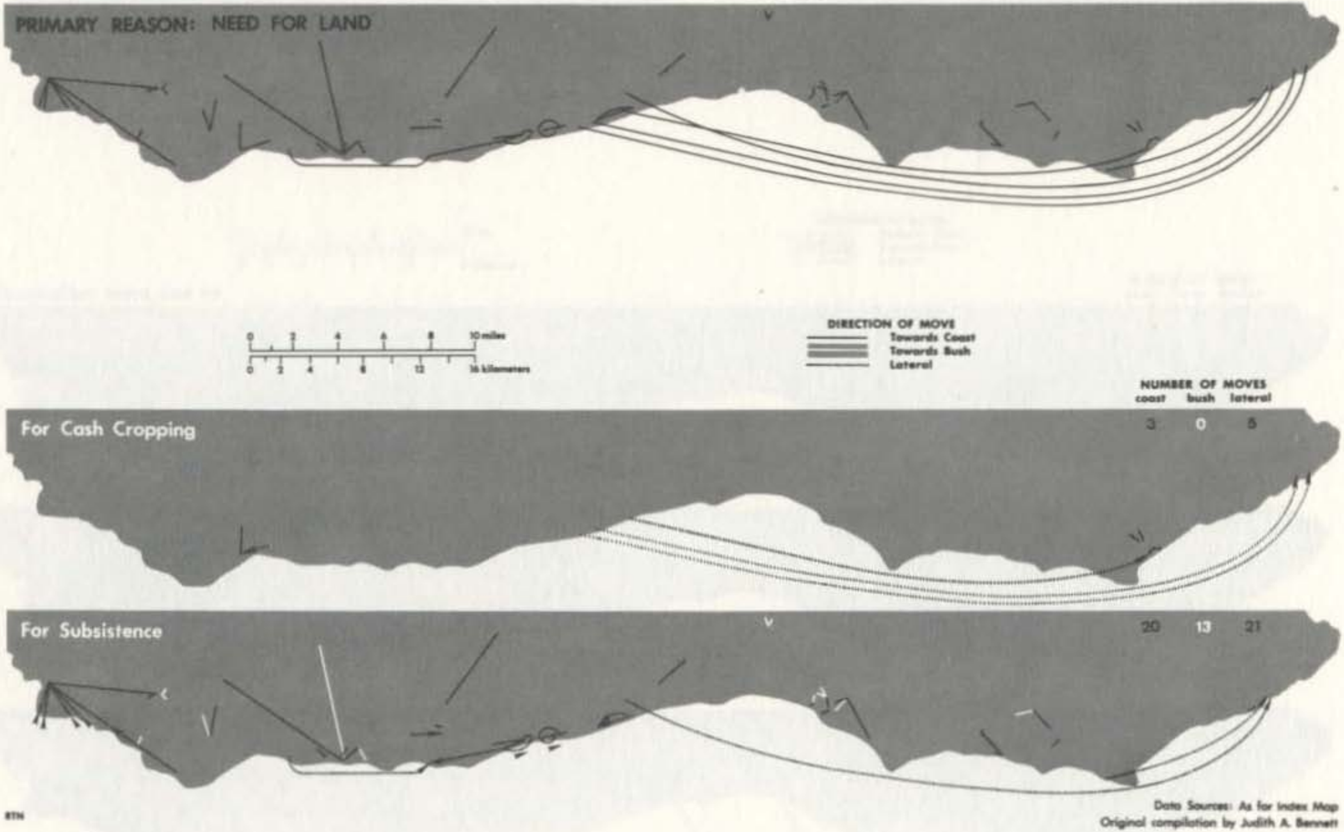

PRIMARY REASON: NEED FOR LAND
0 2 4 6 8 10 miles
0 2 4 8 12 16 kilometers
DIRECTION OF MOVE
Towards Coast
Towards Bush
Lateral
NUMBER OF MOVES
coast bush lateral
For Cash Cropping
3 0 5
For Subsistence
20 13 21
Data Sources: As for Index Map
Original compilation by Judith A. Bennett
RTN

Figure 2.9

Although the method of waging war prevented large scale, permanent dispossession of lands, the fluid picture of village location and relocation due to war, halted with the advent of "Pax Britannica", reveals certain patterns (compare Figs. 2.3 and 2.4). Though following prescribed conventions, conflict between bush and saltwater people was continual. For example, the bush people of Ko'o fought frequently with the coastal dwellers around Old Chaunarogha over rights to garden land. About 1890, this caused the Tauna people to flee to Chaunarogha I. Another war about 1900 lead this same group to retreat to Bubuleleoa to escape the Ko'o who were themselves driven back a year later (22; Figs. A10-11). Nor was there a unity among the bush people, as attested by warfare between the Tetekanji and the Chimiu, the Kologhona and their neighbors, and various groups of the Uppper Tina catchment (11; 18; 98; Figs. 2.1 and 2.2).

Some populations were definitely pushing into new or disputed areas. The koloula people were exerting pressure south and eastwards into Malagheti lands (28; 36). The Malagheti, unable to expand northwards, pushed east, establishing new villages at Vatumanivo, Vatukulau, and Ngalipapa, which brought them into conflict with the Kuma bush people who wanted land near the coast (49; 52; 53). Further west, the Ko'o were driving south on the coast and were able to force the purchase of land in the Viso area from the Garavu line who had established themselves there in the first half of the nineteenth century (54; Figs. 2.1 and 2.4). Further east the bush Tetekanji who had established an outpost near the mouth of the Tanahecha river at Komulonga as early as 1885, were able to ally themselves with the coastal Balo people to drive back the raiding Chimiu (98). Near Marau, by the 1860's the colonizing 'Are'Are had founded a settlement on the unoccupied coast of eastern Bota Moli (103; Figs. A8-19).

In the extreme west of the Weather Coast, around Wanderer

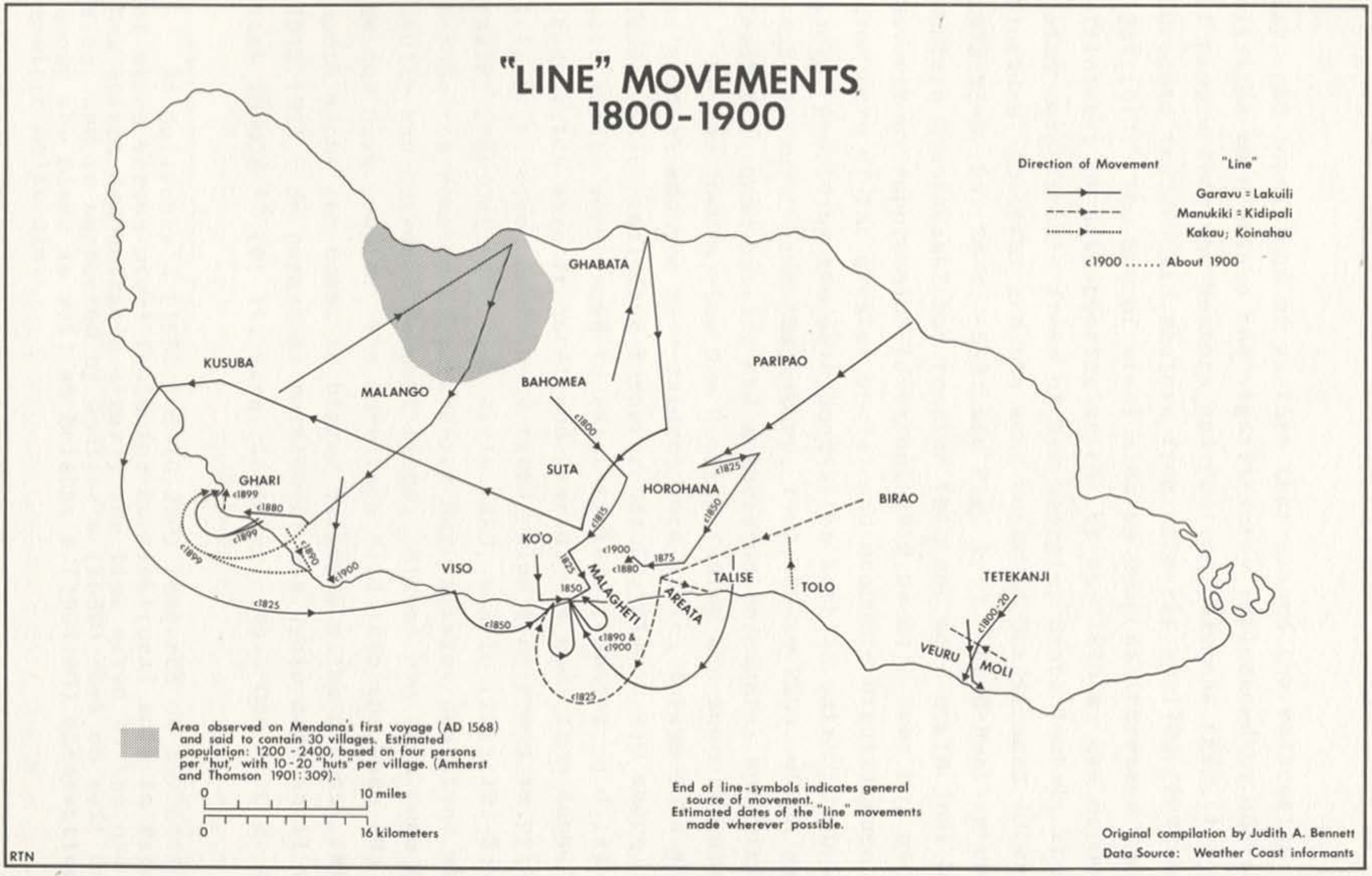
Bay, the conditions of warfare that caused the relocation of villages were unique and significantly influenced by contact of people from the Western and Central Solomons (Fig. 1.1) with European traders and whalers from as early as 1790 (Shineberg 1967:151). The use of steel axes as weapons increased the efficiency of head-hunting which, by the 1880's, had depopulated considerable areas of New Georgia, Santa Isabel, the Floridas, Choiseul and the west coast of Guadalcanal (Jackson, 1972:23-5, 28, 34-8, 46-7; see Fig. 1.1). Head-hunting on western Guadalcanal had reached this enormous scale just before Government suppression (Jackson, 1972:24-6). Even so, steel axes were of far greater social and economic significance as <u>tools</u>, providing the male population with an extra 30-40 per cent "leisure" time (Salisbury, 1962:108-10,220), which was devoted to head-hunting and associated ceremonial activities.[11]

By the 1880's, the New Georgia (using the Russell Islanders as guides) and the Savo raiders were making forays into West Guadalcanal, including Wanderer Bay (9; Fig. 2.2), where settlements were known to exist in 1851 (Webster, n.d:111-28). These raids were frequent and feared. In one, from Russell Island, thirteen heads were taken, plus nine women as prisoners (Mair, 1880:Oct. 25). In early 1886, Rannie (1912:191-2) came across the remains of a Wanderer Bay village, skeletons without skulls and cut-down coconut trees. Slaves had also been taken by the Savo people. The survivors fled into the bush (9) or south along the coast to bigger villages miles distant (Rannie, 1912:191). No permanent settlement was again made until the late 1890's [12] (9; 11; Wawn, 1894:Aug. 14). One of C.M. Wood-

---

[11] Salisbury's (1962:108-10,220) research on the efficiency of stone versus steel tools for horticultural work in Papua New Guinea demonstrates clearly the time saved by the use of steel axes, and is supported by Godlier's (1969) work on salt making among the Siane as well as Belshaw's (1954:60) observation for eastern Melanesia.

[12] Wawn's map of Wanderer Bay shows no villages.



"LINE" MOVEMENTS
1800-1900
Direction of Movement
"Line"
Garavu = Lakuili
Manukiki = Kidipali
Kakau; Koinahau
c1900 ...... About 1900
GHABATA
KUSUBA
MALANGO
BAHOMEA
PARIPAO
SUTA
HOROHANA
BIRAO
GHARI
KO'O
VISO
MALAGHETI
AREATA
TALISE
TOLO
TETEKANJI
VEURU
MOLI
c1800
c1825
c1815
c1850
c1899
c1880
c1890
c1900
1875
1825
1850
c1890 &
c1900
c1800-20
Area observed on Mendana's first voyage (AD 1568) and said to contain 30 villages. Estimated population: 1200 - 2400, based on four persons per "hut," with 10 - 20 "huts" per village. (Amherst and Thomson 1901: 309).
0
10 miles
0
16 kilometers
End of line-symbols indicates general source of movement.
Estimated dates of the "line" movements made wherever possible.
Original compilation by Judith A. Bennett
Data Source: Weather Coast informants
RTN

Figure 2.10

ford's first tasks, when he arrived in 1896 to be Resident Commissioner, was to suppress head-hunting, and by 1898-99 the task was virtually completed (Woodford, 1898:Aug. 27).

The Wanderer Bay area was the only part of the Weather Coast to be directly affected by the depredations of head-hunters. A lack of safe landings, dangerous seas and treacherous shelving beachers proved an effective barrier to the canoe-borne raiders. However, there is evidence to suggest that some of the southward pressure of population on the western and central south coast may have been due to fleeing groups of peple from the west and north-west coast, particularly from around Lungga Point to the west. This area was under attack in the 1870's and 1880's from Savo head-hunters (Rudd, 1877:May 12; Woodford, 1890:184) who had ready access to steel axes. In 1888, one group from Savo attacked Vaturanga in north-west Guadalcanal, taking thirty heads. On a subsequent raid, another forty heads were won. While the Vaturanga launched retaliatory attacks (Woodford, 1890:183-4), they also removed their settlements to the mountains (Woodford, 1891:Mar. 17; HD Map, 1889). Riads such as this probably caused the depopulation of the vulnerable Guadalcanal plains of the north coast. There were villages there in the 1840's (Woodford, 1890:180-1; also Murray, 1876:May 25), while in Mendana's time, 1568, the population of the plains area alone was of the order of 2,000 to 6,000 people (Bennett, 1974:Appendix C).

Survivors from the raids from Savo and Nggela (Floridas: Fig. 1.1) retreated southwards from the plains and eastwards into less exposed areas (Wright, 1932:45-6). The hypothesis that southward population pressure had reverberations on the Weather Coast, possibly intensifying warfare, is supported by some histories of the "lines" of the Weather Coast people. These reveal a southward movement while some show a definite retreat from the north coast (Fig. 2.10).

While warfare was common, there were periods of uneasy peace brought about because of exhaustion of resources on one side or both. There were traditional trade arrangements which warfare upset. Many of the bush people in the Bota area, for example, had to go to the coast to get sea water in bamboo tubes for their salt (84). The Koloula bush people needed coconuts and fish from Malagheti while the Malagheti people obtained big trees for canoes and tamana, a special type of yam (*Dioscorea bulbifera*), in return (54). The Ko'o (Fig. 2.1) commenced peace negotations with the Viso-Pite people following a war about 1900, because they wanted a type of small herring (white bait) caught by the latter (22). Peace was negotiated by a method of mutual compensation for lives taken, with a suitable payment of red shell money, pigs, and yams handed over by the tauvia or "big man" of each village to his opponent, who in turn distributed them to the sub-clan of the deceased (30).

Although warfare was one of the more spectacular causes of village relocation, it ceased in the second decade of this century. Another factor that by contrast, continues to the present is the need to site a settlement near suitable land for gardening. If the horticultural factor is considered in isolation, then bush villages were more subject to relocation than coastal villages, which had access to better and more varied food supplies since fish and coconuts were available. Therefore, if numbers were equal, there was less pressure on the land by coastal people for root crops. It can be argued, also, that in most areas the beach itself provided a route which made walking easier than in the hilly interior. Thus, the distance travelled along the beach could afford to be greater than that traversed inland because the time and effort expended would, within comparable limits, be roughly the same. There is no way of knowing with certainty the distance between gardens and village in pre-contact times. Four present-day sites at Sughu (Wanderer Bay), Ghauvalisi, Aona and Marau (Fig. 1.4), averaged a walking distance between village and the majority of gardens of 18 to 26 minutes (Chapter 6) which, at a speed of 5 km. per hour, is approximately 1.5 to 2.16 km away with the most distant gardens (at Aona) being one hour's walk. This fits the present pattern of "tolerable distance" described for Melanesia by Brookfield with Hart (1971:225): namely that, in areas where only foot transport is available, at least 75 per cent of the garden land will be within 2.0 km of the village.

From this it can be seen that a bush village would be relocated when the distance between the komuto (village) and the majority of libolibo (garden hamlets) exceeded a "tolerable distance". If similar patterns prevailed in pre-contact and early contact times, this distance would have been of the order of 3-5 km. Gardens have about a two to three year life with a twenty year fallow (Chapman, 1970:29). Thus, depending on terrain and intrinsic soil fertility, gardens would be planted further away from the komuto until the 3-5 km perimeter was reached. Then, all other factors being equal, at least part of the village would be relocated closer to the gardens. The coastal village of Ngalipapa was established as a new settlement out of Sulu (inside Taupada, Malagheti:Fig. A3) because the people found the distance between Sulu and their gardens too great (53). This distance between Sulu and Ngalipapa is approximately 3.25 km. Assuming Ngalipapa was close to the gardens, then 3.25 km was the "tolerable distance" for these people about 1911: by comparison, in present day Tadhimboko (north-east Guadalcanal), only 10 per cent of the gardens are located beyond 3.2 km of the village on relatively flat land (Brookfield with Hart, 1971:225).

Relocation of komuto constantly occurred in pre-contact times because of the horticultural factor alone (18; 20; 45; 48; 68; 98). However, in actual practice, the relocation may have been made before the suggested outer limit of 5 km was reached, because of the danger of enemy ambush which increased proportionately with distance from one's home village.

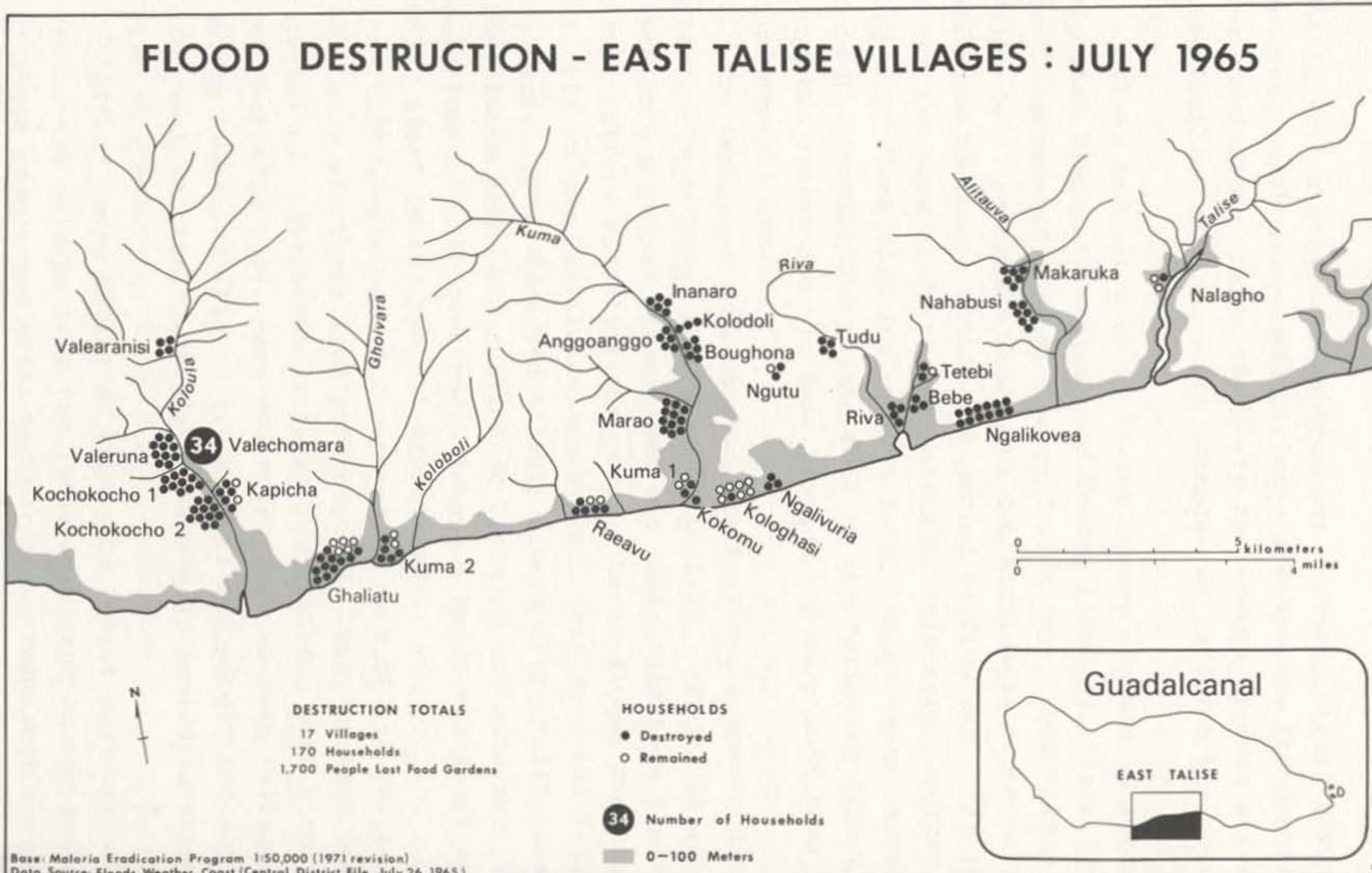
Over and above the horticultural factor, and as is emphasised in Chapter 5, the people of the Weather Coast have a constant battle with a difficult environment. Floods, tidal waves, erosion, earthquakes, and cyclones are hazards faced yearly by the population. Since there are no records of such pre-contact catastrophes, a more recent example can indicate the potential impact:

"There had not been in living memory or even in legend," reported District Commissioner Tedder (1965:1), "rain to equal that experienced in East Talise during July, 1965. Very heavy rains fell throughout June--Avu Avu Mission is reported to have recorded 50 inches within one period of five days. In the first two days of July, 265 points of rain were recorded at Avu Avu. Then from 3rd to 12th July, 108.62 inches were recorded. Another 330 points fell in the following five days. From the damage done in East Talise, the rain must have been considerably heavier."

The impact of such massive rainfall was summarized in the official <u>News Sheet</u> (BSIPN, 1965/14:1-2). "From 9th July to 11th July a series of mudflows and landslides took place in river valleys and along the coast. Great floods from torrents of rain in the Guadalcanal mountains swept down the Talise, Alitauva, Riva, Kuma and Koloula rivers [Fig. 2.11], tearing away their banks and destroying villages and gardens. The only loss of life occurred...[when] a house was swept away in the...night [with] two children inside...."

"1700 people out of a population of 2,500 in the East Talise area lost all their food gardens, and...many of them were facing starvation. Seventeen villages and hamlets, with a total of 167 [actually 170], were destroyed, and 10 more villages were partly destroyed [Fig. 2]. Many of the people who lost houses also lost all their worldly possessions, including what little cash they had."

(They) "were living on what yams, sweet potatoes and taro they could salvage from the landslides, and on the generosity of those people who still had gardens. Some were foraging in the bush for wild foodstuffs. Even those who still had gardens



FLOOD DESTRUCTION - EAST TALISE VILLAGES : JULY 1965
Kuma
Riva
Alitauva
Talise
Ghoivara
Koloula
Koloboli
Valearanisi
Valeruna
34
Valechomara
Kochokocho 1
Kapicha
Kochokocho 2
Ghaliatu
Kuma 2
Raeavu
Inanaro
Kolodoli
Anggoanggo
Boughona
Ngutu
Marao
Kuma 1
Kokomu
Kologhasi
Ngalivuria
Tudu
Tetebi
Bebe
Riva
Makaruka
Nahabusi
Ngalikovea
Nalagho
0
5 kilometers
0
4 miles
N
DESTRUCTION TOTALS
17 Villages
170 Households
1,700 People Lost Food Gardens
HOUSEHOLDS
Destroyed
Remained
34 Number of Households
0–100 Meters
Guadalcanal
EAST TALISE
Base: Malaria Eradication Program 1:50,000 (1971 revision)
Data Source: Floods, Weather Coast (Central District File July 26, 1965)

Figure 2.11

were not far from starvation, because their crops were rotting in the sodden ground. New gardens... will take three months to come into production."

Later field reports (Mason, 1965; Tedder, 1965b, 1965c) indicate that the three-month estimate for new garden production was optimistic, and in fact continued heavy rain until 4th November meant that new gardens would not be ready until the following February. Because of continuous rain causing rot, the productivity of most gardens not swept away dropped to about 20% of normal. Crops were not maturing, new plantings had died, and taro crops were a failure.

As a food supplement, the Government shipped in numerous tins of biscuits, as "possibly the best form of emergency food supplies... as they can be landed and carried without being spoiled by sea or rain" (Tedder, 1965a:3). These were distributed on a system of "food only to those who are desperate" (ibid), while additional contributions from other agencies included rice, flour, milk, calico, knives and saucepans. Coconut palms were also replaced by government, in the form of new seed nuts. Heavy seas frustrated most attempts to land food where it was most required. A November report (Tedder, 1965c:1) stated: "the people buy and beg some food from the coastal people and forage from the bush "mousa" vine roots and fern tops.... There are some 400 people in the Koloula valley needing assistance." Several more shipments of biscuits "or the equivalent in root crops" were recommended.

In the Koloula valley alone, four villages were totally destroyed and two others partially so when the houses were washed away or isolated by the river (Fig. 2.11). Fifty per cent of the gardens were swept away. At its height the Koloula River had a width of more than 900 feet and was flowing over eight feet deep, at more than six knots. The valley was "so scoured that there are no village sites available... and... no leaf is available for building new houses" (Tedder, 1965b:2). Palm leaf had to be brought in from outside the Weather Coast by government.

The 400 people affected scattered among coastal villages. However, shelter from the coastal peoples could be expected to be temporary only, since their limited resources (even in better times) would not permit the absorption of the Koloula people without strain. In pre-contact times, without outside supplements, it is likely that the pressure on those villages which survived would have become intolerable, with many more people and/or villages being forced to move away from the area. The chances for survival of the very old and very young, the weak and infirm, would also have been greatly diminished. Thus it is safe to assume that, within the limits of pre-contact set, similar conditions existed and were, as today, among the most significant factors causing village relocation (30; 54).

In addition to the elemental causes of village relocation (warfare, horticulture, and environment), certain aspects of the social organization were influential, if usually less spectacular. Clearly a "big man" could influence village location. Traditionally, as now, members of the various "lines" were proud if one of their "line" achieved "big man" status. There car be no doubt that one of the qualities necessary to achieve this status was prowess in warfare as either an organizer, a warrior or both (9; 68). A "big man" attracted followers, particularly people of his own "line", who clustered in his village or nearby. In this manner coastal villages expanded considerably to incorporate more hamlets (9; 11; 16; Bertin, 1928:552), while the bush villages were similarly enlarged or, as was often the case, a new village established.

When a "big man" died, the inhabitants of his village dispersed or drifted away. Beyond the scale of the sub-clan, these people were virtually leaderless until a new "big man" appeared and the custom of killing one or two members of his "line" to propitiate the spirit of the leader was a source of tension that reduced the community's cohesiveness and engendered suspicion and fear (for example, WPHC-1C, 1917:April 20). In the days of warfare, this situation was a greater potential threat than it is today. Bush villages were frequently and completely abandoned, though some sites were reoccupied years later. There are no documented cases of entire coastal villages being emptied after the death of a "big man", though some of the hamlets were deserted as various groups dispersed (28, 59, 68; Fig. 2.8).

While the death of a "big man" fragmented a community, an unusually high number of deaths among villagers within a community also affected it significantly. On the Weather Coast, as in most of traditional Melanesia, death was attributed to sorcery except sometimes in the case of small children and very old people. Whatever the attributed cause, vele or piro, the effect was the same: when a number of deaths occurred in close sequence in a village, the survivors usually abandoned the site (30; 33; 54).

Warfare, horticultural requirements, natural disasters, the rise and death of "big men", sorcery or disease were the main factors bringing about village relocation in pre- and early contact times. Since contact and the coming of Protectorate government, only actual warfare has been eliminated as a factor and thus represents a discontinuity with the past. The others, with some modification, still continue and influence village relocation on the Weather Coast; they provide a constant context within which the cross-cultural influences of village relocation have operated.

The Beginning of Alien Impact, c1870-1914

A. Intercolonial Labor Trade.

Before the advent of the British government in 1896 and the Christian missionaries resident from 1899, the most significant contact Solomon Islanders had with Westerners was through the intercolonial labor trade (1870-1910). By the 1870's, as the demand for plantation labor grew, recruiting ships from Fiji, Queensland and Samoa were extending their operations from the New Hebrides to the Solomon Islands (Fig. 1.1). Although the extant records are incomplete, Guadalcanal is known to have been one of the major exporters of labor.[13] Between 1870 and 1911, an estimated 2,047 people, overwhelmingly men, were recruited from the Weather Coast for Fiji, Queensland and Samoa (Bennett, 1974).

While there is no doubt the early recruits were kidnapped and forced to go to the plantations, after just a few years men went quite willingly to work overseas. Initial lawful recruiting attempts were unsuccessful because the Weather Coast people had no previous experience and were fearful of the strangers in their big ships. Additionally, the language barrier prevented explanation of the terms of employment. Contact with Westerners prior to the labor trade had been confined to the visits of the odd trader, whaler or British warship to the safe anchorages at Wanderer Bay and Marau [14] (Fig. 2.1).

The main motivation for recruitment was the desire for the white man's material products: powder, muskets, axes, tomahawks, saws, bayonets, pans, pots, umbrellas, tobacco, pipes, tinned biscuits, clothes, hats, bangles, Jews' harps, coin money and the ubiquitous bokkus (wooden box or chest) (22; 68; Murray,

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[13] For an excellent study of the labor trade in the whole of the Solomon Islands, see Peter Corris, (1970), who has shown that while the early years of the labor trade were marred by several outrages, conditions improved considerably in the 1870's and 1880's.

[14] For a more detailed discussion of early contact and labor trade along the Weather Coast, see Bennett (1974:48-72).

1876; Haddock, 1877). Because the societies of the Weather Coast asked little work from young unmarried men and because there were no elaborate initiation or puberty ceremonies requiring their participation (Hogbin, 1967:23-4), there was little pressure on the men to remain at home, except in cases where their aid was needed in warfare. Clan opposition to the departure of a young man was mollified by the practice of recruiters paying compensation to the clan in goods, such as muskets and tobacco (65; Mair, 1880:October; Rebman, 1880:Feblo; Mills, 1884:April 22). With the introduction of metal axes via traders, labor recruiters and returnees, garden clearing could be done more quickly by the men giving them up to an estimated 30%-40% more "free" time (Bennett, 1974:53-4). Finally, it is highly probable that as throughout Melanesia, the population exhibited masculinity (see Chapter 3) which would have created a surplus of unmarried men. The labor trade therefore provided an opportunity to obtain goods and experience without greatly affecting the repor-ductive potential of the overall population, especially when over 70% of those recruited eventually returned (Bennett, 1974: 54-6).

From the standpoint of the Weather Coast people, the labor trade had many effects. A dependence on certain Western goods, mainly tools and utensils developed, as did a tradition of men absenting themselves from their home areas for one or more years to work for goods or money. In addition, the labor trade created a core of people who were acquainted with aspects of Western ideology, religion, education, economy and technology. When expatriate administrators and missionaries came to the Weather Coast, it was from this group of returnees that the middlemen, interpreters and exploiters of the cross-cultural situation came (Bennett, 1974).

The first known relocation of a village because of the influence of Christianity, was initiated by a Queensland returnee, Samson Chaku, who was recruited from the Ko'o bush. Chaku became a Christian through the efforts of the Queensland Kanaka Mission (19; Young, 1926:202) and after his return to the Koloula river area, commenced evangelizing at a small bush village, Rongoni (19; 34; Deck, 1910; NIV, 1954:15; Figs. A12-13). The adults were not impressed so Chaku concentrated on the children, but without any support against village social pressure, he returned to paganism and warfare. After his brother Paul Vikimbo returned from Queensland and persuaded him to return to Christianity. Both men established a new village, Chorokindi (Fig. A13), at which a few followers, probably relatives, settled (19). Later, another move was made to Niumasanga, because of the need for new garden land. At the adjacent hamlet of Ngaliabula, two "big men", Karasa and Manambasi, became interested in the ideas of Chaku and his brother. In the customary way, these "big men" who were "line" kinsmen, invited Chaku and his people to their settlement (28; 19). Chaku, whose own religious learning was slight, wanted to contact missionaries and even sent across to the north coast in his quest. This being of no avail, he decided to move from the bush to the south coast itself, so he could easily contact any passing ship (19; Young, 1926:203). This was not a simple proposition because the land around and to the east of present-day Inakona (Fig. 2.1) belonged to the Malagheti people, who frequently fought with their neighbors of the Ko'o bush (Fig. 2.2). Yet ties existed through marriage, while Chaku, Karasa and Manambasi had "line" relatives in Malagheti (see Bennett, 1974; also Hilliard, 1965:49). These men negotiated a customary purchase of the land and obtained the Malagheti people's permission to move there, about 1906. Thus, the village of Inakona was established with about 50-70 Christians (19; 28; Deck, 1910; Young, 1926; Fig. A12-13). Shortly afterwards, the ship <u>Royal Endeavour</u> came to the Weather Coast and its captain, Lane, was able to put Chaku in touch with his missionaries (Young, 1926).

This one case of village relocation illustrates clearly the meshing of two cultures: aspects of the new, embodied in Chaku, his Christian beliefs and his desire for increased knowledge; working through the mechanisms of the old, alliances with "big men" and the negotiation of customary land purchase.

B. British Government

Through men such as Chaku as well as expatriate missionaries, the Christian missions had begun to exert some influence on the distribution of the Weather Coast population before British administration became more direct. Yet evangelical work would have met with greater opposition (preventing much of its impact on population distribution) had the government not been implementing from the outset a policy of pacification. Although it was not until late 1914 that the first government station on Guadalcanal was opened at Aola (Fig. 1.4), the influence of alien authority had already been felt among some of the coastal people. Conflict between them and traders around Marau Sound (Fig. 2.1) had resulted in punitive expeditions by the Royal Navy in the 1870's (Bennett, 1974:74-76). The year 1897 when the first Resident Commissioner, Charles Morris Woodford, arrived in the Solomon Islands to establish the Protectorate government also saw the murder of the manager of the Marau Company's plantation at Koaka, Jean Porret, and his two cooks, Ola and Misiana. Porret appears to have been killed when he attempted to work plantation land purchased by the company. The local people were hostile to the occupancy and clearly did not understand or accept the Europeans concept of land tenure and transfer (Woodford, 1897:September 25).

Government action on the central Weather Coast initially centered around conflict between the local people and the first efforts of Catholic missionaries, but the government was also concerned with establishing a general peace, the <u>Pax Britannica</u>. With his woefully limited resources, Woodford exploited to the utmost what was available. His tactic of utilizing men who understood the government's aims can be demonstrated by the case of William Buruku, a police sergeant.

In 1898, Buruku returned to his Wanderer Bay home after twenty years' absence, and attempted to put down local fighting (9). When the scale of operations became too large for him and his supporters, he wrote to Woodford, telling him of the presence of illegal guns in 1902 (Buruku, 1902), and of predatory raids by the bush men on the coastal people at Bolonda the following year (Hazelton, 1903:March 7). This enabled Woodford to follow through with an investigation and fines, which, being collected by Buruku, reinforced his authority and power so that by 1910 his influence extended as far as the Ghari bush in/near the upper Tina catchment.

Although a network of such middlemen was not built until after 1914, David Sango was a force in the central Weather Coast from as early as 1907 (Bennett, 1974:Appendix F). He spent twenty years in Queensland, becoming a Christian and marrying another, Rhoda Marapongul from New Ireland. In 1907, Sango and Rhoda chose to return with their family to his village at Talise in order to evangelize (NIV, 1915:50). While a worker for the South Seas Evangelical Mission,[15] he later assumed the role of innovator of British law for much of the central Weather Coast (57; 67; 72). His position as brother (NIV, 1908:41) of the leading Garavu "big man" assisted his initial attempts to convert the people while a continuing association with the West on its secular and religious fronts confirmed his status. The influence of the Christian missions in general and Sango in particular brough peace among the south coastal villages before the government station was established

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[15] The Queensland Kanaka Mission, following the cessation of recruiting in 1907, changed its name to the South Seas Evangelical Mission, (NIV, 1907:8).

at Aola. In 1911, these coastal people met and destroyed their firearms as a gesture to signify the end of their warfare (NIV, 1916). Although no official record exists (Woodford, 1916: December 11) of the government having appointed headmen prior to 1915-16, Woodford (1911:November 21) had noted as early as 1911 that a group of suitable men existed on Guadalcanal and a decade earlier had commenced recruiting individuals to give them basic police training (Woodford, 1900:January 17, February 2).

Throughout the period 1870-1914, the government's only concern had been pacification of the coast, and clearly there was no official policy on village relocation (Mahaffy, 1911:3). However, by 1914, with the establishment of peace and punishment for lawbreakers, conditions were being established that allowed for greater mobility of the population. Similarly, there was less need to choose inaccessible village sites, nor for hamlets, to be so scattered along the coast.

C. Christian Missions

The government was not the only force attempting to bring peace and the eradication of major crime (in Western eyes), such as killing and stealing. On the Weather Coast three groups of Christian missions, the Roman Catholics, the Melanesian Mission, and the Queensland Kanaka Mission [16] (subsequently the SSEM), were at work by the first decade of this century and, as such, provided a continual ideological reinforcement of government policy. The first resident expatriate missionaries were the Catholics, who arrived at Avu Avu in 1899 (Raucaz, 1928:105-8). They exerted no pressure on the local people to change their traditional settlement patterns and until as late as World War II, little relocation of population and village had resulted from their influence on the eastern half of the Weather Coast. The

[16] For details of Christian missions in the Solomon Islands see Hilliard, (1966); Laracy, (1969).

conversion strategy of the Catholics was to bring children to reside at the mission station for schooling, thus creating a core of adherents who could return to their villages with sufficient religious understanding to spread the faith and sustain it between the priest's visits (98; Boudard, 1921:559-60; Dubois, 1928:January 20, June 29; and 1932:July 2).

In the west, however, all three missions encouraged village relocation to more accessible areas, and urged their followers to move from scattered hamlets to central villages. The Melanesian Mission commenced operations on Guadalcanal in the north-west near Vaturanga and Savulei (Fig. 1.5) where, in the first years, it faced much opposition. By 1901, a number of school villages were attracting converts from neighboring settlements on the coast and in the bush (SCL, 1901: February 15:130). In the south, visits by missionaries had been made to the Wanderer Bay area from 1896 (SCL, 1896:May). By 1902, five boys from this area had been taken to the mission's training center on Norfolk Island (8; SCL, 1902:March) and the following year, the <u>tauvia</u> Paura, allowed a teacher to begin a school at Veratasi, a hamlet within Sughu (8; 12; SCL, 1904: April; Fig. 2.1). The missionary, Frank Bollen, managed to establish teachers in villages as far east as Malagheti by 1908, but after his death the following year, those villages beyond Veuru (near Cape Hunter: Fig. 2.1) were visited infrequently by expatriate missionaries (SCL, 1909:October 11; also Hilliard, 1966:161). Beyond Malagheti, both competition from the Catholic mission and the Melanesian Mission's lack of staff curtailed expansion. The only other Melanesian Mission center was founded in Moli in 1910 (SCL, 1910:April 1).

The policy of this mission for village location was best summarized by Cecil Wilson, Biship of Melanesia:[17]

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[17] The Diocese of Melanesia included both the New Hebrides and the Solomon Islands (Fig. 1.1).

"In our large islands, I mean in the Solomon Group, the most important islands, there are no villages until we make them. . .the people live in hamlets....When we get Christians in any one spot, we gradually gather all the people together from that neighborhood so that we form a village in time. When the number is finished, and all the people are gathered together, there may be 150 of them"(SCL, 1910:August 13, 41-2).

The Weather Coast villages of the Melanesian Mission followed this pattern (11). At Wanderer Bay from 1908 on, people moved from Karo across to the mission village of Veratasi, while many came down from the bush settlements of Chadua, Tasule, Saudato and Kokoran (8; 9; 12; Fig. A8-9). In the bush itself, scattered hamlets were concentrated at Tamisu (about 1910) after their inhabitants had been converted by the teacher, George Gerakona. Three years later, with the construction of a better church, the Tamisu people moved to Lumabogho. Gerakona was the first resident teacher at Marasa where followers of the Mission congregated (4; 11; 25; 30; Figs. A8-9). At Veuru (SCL, 1907:April 10:151), Queensland returnees prepared the way for the Melanesian Mission; similarly, Ari Kari at Ghorobau and George Kasi and Silas Vero at Kolina preceded the missionaries in attempting to evangelize (Figs. A10-11). It was they who called the people together from outlying hamlets as early as 1905 and it was through them that the Melanesian Mission extended its work. After being converted to Christianity by the Queensland returnees Charlie Buka and Jimmy Gaumasi, the people of the bush village of Tanachuichui in the Duidui area were influenced by Bollen to come closer to the coast to the villages of Inavidi and Veravaolu. Under the same impetus, the people of Bulaketava and Ngalichechele also relocated at Veravaolu (47). In the much-missionized Malagheti villages, Ghaliatu became the Melanesian Mission center (WPHC-IC, 1932:December 23, 1931), where the teacher, Cecil Baringala from the north-west Guadalcanal, was able to bring about peace between the Malagheti and bush people in 1908 (SCL, 1910:January 8:131; Fig. 2.2).

On the Weather Coast, there was very little establishment of completely new, separate villages by the Melanesian Mission. A church was first built and a teacher lived within a hamlet whose people had been converted. Thereafter followers congregated around this settlement. Unlike the SSEM, the Melanesian Mission did not encourage its followers to completely segregate themselves from the rest of a hamlet cluster that followed a different mission, or was still pagan. This, of course, sometimes happened with the Christian converts as they scarcely veiled animosity among sections of the mission groups was often interpreted by their followers in a more concrete way.[18]

The South Seas Evangelical Mission was more extreme in its insistence on the creation of communities of converts; their policy for the Solomon Island Christians was:

"Come out from among them and be ye separate." (2 Corinthians 6, v.17).

New villages of SSEM followers grew up around the church, apart from the pagans and later other Christians (NIV, 1909-10:26; Deck, 1912:December). Concerning SSEM villages in the Solomons, Hilliard (1969:52) states that "few. . . .exceeded 80-100 inhabitants," but does not cite his source nor the specific period to which he is referring. Once the SSEM missionaries started preaching on the Weather Coast in 1908, the Christian village of Inakona, founded by Chaku, expanded, so that by the 1931 census it recorded a de jure population of 97 (WPHC-IC, 1932:December 23, 1931). Another Christian village on the coast was established by Ko'o bush people on the site of Kikinocho

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[18] For examples see SCL, 1905, March 7:11; SCL, 1907, April 14:40; Raucaz, 1928:196.

(NIV, 1909-10:25), while the Queensland returnee Dicky Melu, later assisted by the missionary Charles Lees, called together converts at Tabala about 1913 (23). In the Koloula valley another returnee from Queensland, Peter Ula, founded an SSEM village of about forty people at Inakaro (19; 28; 31; Figs. A12-13). However the Koloula valley, being subject to frequent disturbances by flood and landslide, was not suited to the establishment of many large villages (Fig. 2.11). The SSEM teachers here tended to move around, visiting each area. On Sundays, SSEM adherents walked to a central village where the church and teacher were located (29; 48). On the coast at Sughu (Talise), David Sango was living in an area of concentrated population as was the teacher at Bokasughu, in Bota Moli (Fig. 2.1). In both these villages, while some expansion occurred because of the appeal of the SSEM, the teachers worked within villages previously established and where they were already known (Deck, 1910:May; NIV, 1907-8:41). Prior to 1914, Sango and Bokasughu teacher appealed to bush people to leave their hill-top villages and come to the coast but traditional enmity between the saltwater and inland people, plus the prevailing condition of warfare in the bush, itself, militated against such movement (86; NIV, 1913-14).

The Catholic priests at Avu Avu interfered very little with traditional settlement patterns, but by 1909 their fellow missionaries at Tangarare (Fig. 1.4) were encouraging the movement of bush settlements closer to the coast. Two villages within the Weather Coast catchment, Tabuti and Tabala, consolidated at Lauvuna,[19] a site more accessible to visiting priests where a chapel served the people of both villages (87; Bertin,

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[19] These villages are not shown on the detailed maps for Wanderer Bay Ward (Figs. A8-9) since they were sited on the mountain crestline.

1928:573). Similarly, within Wanderer Bay a Catholic village was founded at Bilikovu about 1910 (Fig. A8). These Wanderer Bay people had originally been taken to school as children to the foundation Catholic mission on the island of Rua Sura, off shore of north Guadalcanal. Subsequent converts assembled in this village, since most people in the neighboring villages of the Bay area belonged to the Melanesian Mission (Bertin, 1928:551).

Mission influence instigated the overwhelming majority of village moved during the period 1900-13. Most of this nucleation occurred along the coast itself, which was the area initially contacted by the missionaries, and solely in the western half of the Weather Coast (Fig. 2.3). Most relocation of villages was within clan and/or tribal regions that had been formerly occupied by the ancestors or relatives of the people concerned, so that the distances traversed to achieve nucleation were short, approximately 1.9 km. (Fig. 2.4 and Table 2.1). Even Chaku's quite extensive more from the Ko'o bush to Inakona was facilitated by lineage kin. Thus mission-influenced moves occurred within the existing socio-territorial ambit and, in general, were extensions of familiar patterns of settlement.

<u>Consolidation of Government and Church, 1914-40</u>

A. The British Government

With the establishment of a sub-district station at Aola (Fig. 1.4) in 1914, the government was brough into more direct contact with the Guadalcanal people than it had been when Tulagi had been the nearest administrative center. The government's aims for the whole of the Protectorate were now able to be pursued as administrative possibilities. As before, the predominant concern was pacification, with in addition the desire to lessen the people's isolation (May, 1911) and prevent conflict between them and the expatriate planters and traders, who had become quite numerous on the north and western coasts of Guadalcanal (Barnett, 1914).

By 1916-17, a network of unofficial government headmen, who received no pay before 1924, was established along the Weather Coast. They appear to have been chosen for their leadership abilities as well as loyalty to the administration, with a conscious attempt to select traditional leaders whenever possible, since difficulties arose in the traditional political structure when the headman was not also the "big man" (Hill, 1924; Wilson, 1923; Hutson, 1925). Among early appointees were William Buruku at Wanderer Bay, Ari Longalae at Ghorobau (9), David Sango at Sughu (Talise) (28; 60; 61; 68; Wilson, 1927), Ari Arasi at Nakili (79; 84; 86; 97), Charlie Paeona at Visanaoru (88; 90), and Ekouwa at Marau (103). All were laborers returned from Queensland or Fiji, and thus had some understanding of British law and of at least equal importance to the fledgling administration British power. In addition, the men selected from all parts of the Weather Coast for police training included some former laborers. Upon returning to their villages, these individuals were often sent by the headmen to other settlements to supervise the implementation of government orders and apprehend law breakers [20] (25; 26; 44; 68; 79; 97; Chapman, 1966; WPHC-IC, 1919: January 6). District headmen relayed government policy to the village headman and/or "big men" after having met with the District Officer and his police when they visited the Weather Coast on patrol (34; 51; Wilson, 1915). Early in 1915, government patrols, assisted by headmen, began to confiscate guns, initially on eastern Guadalcanal, where murder was almost an annual occurrence during the first few years of government residence (Bennett, 1974:98-101).

The first resident district officers to patrol the Weather Coast were Charles Norris (between May, 1915 and October, 1919)

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20 Two of the informants on this point, Benjamin Pangetava and Billy Erumania, were former policemen (Bennett, 1974:98).

and Ralph Hill (between 1920 and September, 1925). As an attempt to reduce isolation, Norris supervised the nucleation of hamlets into sizeable villages along the coast and in the bush (Fig. 2.4:1914-29). He, and subsequently Hill, insisted that inland villages should be sited in the valleys, away from the mountain crests and hill tops, and preferably near a good supply of running water (Wilson, 1928; 1933). This made the population, from the government's standpoint, more accessible; it was easier for patrols to follow river valleys than to visit settlements scattered high in the mountains. The inhabitants of bush hamlets closer to the coast were encouraged to relocate near the beach or combine with existing saltwater settlements. As a result of this nucleation, communities sited in one location increased in size, but rarely exceeded 100.

These policies were not implemented simultaneously or uniformly throughout the Weather Coast, the eastern end being contacted first (Barnett, 1915:March 1) with patrols visiting Talise as early as 1915 (Wilson, 1923). After pacification, the government insisted on building a road--actually no more than a path--from Aola, connecting the Nggarambusu and Mongga River valleys across the mountains through the pass near Suilonggolonggo and down the Alivaghato River valley to the south coast near Longgu (69; Hill, 1924:January 4; Fig. 2.1). Mountain hamlets along this route were resettled closer to the road. Similarly, the government ordered villagers to construct and clear a path along the coast to aid in the mobility of administration officers and the population in general.

From the eastern section, the path along the coastline was extended into the western half of the Weather Coast under the direction of Norris, and by 1918 was near completion (47; 72; Workman, 1919; Hill, 1924:January 4), except for certain sections between Inakona and Wanderer Bay (Fig. 2.1), which proved too difficult (Filose, 1926) then, as now. However, only the more accessible inland areas of the western section, such as the valleys of the Tina and Lamulaghi Rivers (Fig. 2.1), had had continual contact with the government prior to the initiation of a policy on village relocation. Norris and the Police Commandant, Campbell, were the first government officials to patrol the whole of the western coastal area (11) and Hill visited the Lamulaghi River area about 1920 (8). INland Ghari and the area north-east of the Tina River (Fig. 2.1) were barely affected by the government's early policies; what relocation and nucleation that did occur was stimul-ted before 1916 by missionaries and, as a district officer discovered in the 1950's, Maokao and its environs (Fig. A2) had been last visited in 1920 (BSIP, 1957; Wilson, 1928b). Similarly, in 1923 Acting District Officer Wilson (1923) was the first administrator to patrol the Suta area around the Sutakama River and the headwaters of the Kuma River (Fig. 2.1).

There was variation within this general pattern of government penetration into first, the eastern portion, next the western coast, and finally pockets of the bush. For example, in the Duidui area, people of the village of Maleponggu heard from returning plantation laborers of the policy of re-locating villages near the coast of islands such as Choiseul and Santa Isabel (Fig. 1.1). Of their own volition, but doubtless reinforced by the earlier mission-influenced moves of people from nearby Bulaketava and Tanachuichui to the coast, the Maleponggu inhabitants moved southwards to Verarigia about 1912 (Figs. A10-11), some years before government patrols visited the area (Chapman, 1966).

The most dramatic nucleated growth in community size and coastward movement, following government contact, occurred at Purakiki (Figs. A18-19). The bush hamlet of Bulusoso moved first, about 1916, and over the next three to four years the inhabitants of the small hamlets of Burobaghalo, Belathrenghau, Veratabu, Naho, Valepiro, Tava and Tiromasau filtered down from the Bota Moli hills and established themselves at Purakiki. While initiated by the government, such consolidation was encouraged by the SSEM, which was active in this area. Only a few staunch pagans refused to move, preferring to remain close to their ancestral shrines. The Bota Moli coastal area had been sparsely settled prior to 1920 (106), as the people eschewed the coastal plain for the safety of the hills (103; 106) because of warfare and a probably unhealthy environment. There is also evidence to suggest that some saltwater settlements were remnants of larger habitations and that both Bota Moli and eastern Veuru Moli (Fig. 2.1) experienced a period of population decline after contact (see Chapters 3 and 4). Their proximity to Marau heightened exposure to introduced diseases, which carried off many people in the 1890's around Veramakuru (Fig. A6) and continued to decimate the population into the late 1920's (Pinching, 1932).

No records have been found that suggest nucleation occurred in the valleys of the Kolokondali, Kandahu and other rivers in Bota Moli, which is not surprising since in the 1920's and 1930's most people were either pagan or Catholic (WPHC-IC, 1932), with neither likely to encourage coastward consolidation.

In obedience to the government's edict, by about 1922 the many scattered hamlets in the Sabahalava and Alualu River regions had moved down to three main "Government" villages: Nakavoa, Old Pichahila and Makanakolo. Nakavoa and Makanakola were new villages whereas the other was expanded from a Komuto (Figs. A16-17). All the village "big men" met with Ari Arasi, the headman from Nakili, and Norris, who explained the government's edicts (Chapman, 1966). Ari Arasi had spent thirty-five years in Queensland and he, his wife, and children spoke fluent English (Paravicini, 1931:120). An ideal middleman, he supervised the government's orders in the Sabahalava and Alualu River areas, brough peripheral bush people down to Namunahai (79), and saw to it that coastal hamlets in the area for which he was responsible like Sukiki, Nakili and Balo (Fig. 2.1) - nucleated into more compact settlements (84). In Ari Arasi's area, and under Norris direction, the twenty to thirty people in the hamlet of Kilikilikibe built a new village further south at Nenepuhu, to which they subsequently moved (97).

Nucleation of hamlets was enforced along the valleys of the Alivaghato River and its tributaries, with some coast ward movement shown in the relocation of the inhabitants of Nachupu and Pelu to Labeano and Longgu (69; Figs. A14-15). Around the Avuavu mission, little change in settlement patterns was recorded except for the movement of some bush people coastwards to Tanggiata about 1925 (Paravicini, 1931:48; Figs. A16-17).

On the central Weather Coast, Sango primarily encouraged nucleation of hamlets along the coast from around Sughu (Talise) to Viso (23; 36; 60; 72). Some absorption of peripheral bush settlements occurred in the Vatalena area, where the people of Alitauva moved to the village of Vatalena itself about 1917 (57; Figs. A14-15). Around 1920, some amalgamation occurred in the Kuma River valley at Ngalikache (49) and somewhat later in the Koloula Valley at Valevaghalo, Valetovolo and old Valearanisi (35; 42; Figs. A12-13). In both valleys, however, the susceptibility to flooding and earthquake damage precluded the growth of permanent large settlement.

Farther west, nucleation and coastward movement occurred under government direction at Ngaligonu near Duidui (23).

After being informed by policemen, about 1919, of the government's wishes, most of the people of Chakadora and Lusuruka moved quite a distance to the coastal settlements of Komate and Biti where they had relatives [21] (26).

Likewise the inhabitants of the Rina River headwaters moved from several small hamlets into Verolea and Vunisoto (20; 25; Fig. A8-9).

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[21] Benjamin Pangetaua, who provided this information, was one of the policement to deliver the government's orders.

The settlements created from 1916 to 1924 as a result of government policy were laid out in accordance with specific directives, which in 1922 gained legal sanction in a King's Regulation (WPHC-IC, 1922:November 25). The village had to be located near a good supply of water. Formerly, while hamlets had been close enough to a stream to fetch drinking water, they were not always close enough for frequent bathing which, in government's view, was a desirable habit. Houses were to be sturdily built and spaced five fathoms (30 feet) apart for both hygiene and fire-prevention. Traditionally, much of the household cooking had been done within dwellings that had neither windows nor chimneys. The government therefore encouraged the building of separate cooking shelters--a measure designed to prevent eye infections but which unfortunately also encouraged mosquitoes. Where terrain permitted, houses were to be set out in lines facing inwards to a path extending down the center, except on the coast where the entrance always faced the sea. In addition, the people were forbidden to share their houses with pigs, as had been the custom in most areas, and pigs were to be fenced off from the area of close settlement. The village compound had to be kept clean of undergrowth and patches of vegetation while the dumping of waste was also forbidden. Paths connecting villages had to be kept clear of undergrowth and marauding pigs (47; 88; 90; Barnett, 1917; Chapman, 1966).

The reaction of villagers to the government's radical changes was mixed. Although the cessation of warfare was not regretted (29; Wright, 1936), the people did not appreciate having such an integral part of their lives altered through the extensive and official resiting and consolidation of villages (76; 79; 84). While the pattern of re-locating villages was not alien in itself, the government impetus was. Without the need, in peace time, for siting hamlets in high places for defence, such policy received resigned acceptance, as did the threat of fine or imprisonment, if the law were disobeyed. Concerning the new sanitation requirements the acting High Commissioner, Barnett, stated in 1917 that "the natives willingly obeyed the orders given for bettering their condition" and that "they are now appreciating this altered state of living" (Barnett, 1917). Obey they may have done, but appreciate they certainly did not (54; 68).

In the early years when Norris and Hill were district officers, rules relating to village sanitation were secondary to the fundamental requirement of nucleation and continuous residence at one site. Such priority was potentially dangerous, since new patterns of settlement and residence usually require a new set of behaviors so that the health of the population will be maintained. Norris was active in introducing these policies, as he was in road building, but many of the laws were not policed in the second half of Hill's administration (1922-25:Filose, 1926). Without regular patrols, many of the apparently minor rules relating to village sanitation were neglected, a situation which continued until the late twenties, because of frequent administrative changes at Aola (Fig. 2.1; 1.4). From 1928 and into the thirities, however, there was greater continuity in staffing at Aola, patrols supervised by the district officer made annual and often bi-annual visits to the Weather Coast, and law enforcement improved considerably.[22]

District Officer Colin Wilson (1923), who in the early twenties appears to have preferred to allow traditional settlement patterns to continue, by 1927 had perceived the havoc nuclea-

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[22] For visits by the government vessel Ramada to the Weather Coast, See WPHC Inward Correspondence, files nos. 1832 and 3168 of 1928; 1422 (66), 1428, and 2831 of 1929; 1278 and 3026 of 1930; 1465, 2897 of 1931; 1721, 3422 of 1932; 918 of 1934. Forwarding of boat's logs was discontinued in 1934.

tion had caused in some bush settlement and permitted a relaxation of this policy wherever it interfered with the people's health. That some villagers were loath to take advantage of this changed attitude even when the need arose is an indication of both people's fear of the government and the inconvenience occasioned by resiting settlement (Wright, 1934; WPHC-IC 1933). Even when disease ravaged villages, as was the case with Inakaro (41) and Nakavoa (Chapman, 1966), the people sought official permission before departing unhealthy sites. By the mid 1930's, however, administrators were much more inclined to allow traditional settlement patterns to persist and to seek the opinion of village leaders before altering village sites (BSIP, 1936). In some areas where relocation had already been enforced, reversion to former locations was not greatly censured by the government (Hogbin, 1937:70).

B. Christian Missions

Until the late 1920's the various missions altered little in their policies of village relocation and nucleation. Initially, all denominations consistently supported government policy, because it made the people more accessible to them.

By 1928, the Melanesian Mission and the Catholics in northwest Guadalcanal had realized the dangers in relocating bush people in large coastal communities and ceased their former emphasis upon such moves (Paravicini, 1931:48). As early as about 1910, the Catholic missionaries at Tangarare (Fig. 2.1) had noticed that inland inhabitants were highly susceptible to disease in a coastal environment. People of the Ghari bush (Fig. 2.1) hamlets of Tabule and Tabala had, after a series of moves, finally relocated near the Tangarare mission at the village of Choighi. At this lower altitude and in a larger community, the villagers became ill and some died. Subsequently the priest allowed a return to a mountain-crest village site at Kuena, where the people regained their health (87; Bertin, 1928:573).

On the Weather Coast itself, the Melanesian Mission did not emphasize nucleation as part of its teachings although small groups of people from Balubalu and Sesadou in the Tetekanji and Birao bush moved a considerable distance south to the coastal village, Oa, in Bota Moli (Fig. 2.1), because they wanted to live within a Melanesian Mission community. Similarly the pagans of Balubalu went to Keresoto when the former village was deserted by the Christians (95; Figs. A18-19).

The SSEM, however, seemingly blind to the physical needs of its people, continued to actively encourage nucleation in the Birao bush in 1916 (Deck, 1916) and in the Horahana central bush at Nata and Suta in the early 1930's (Clark, 1932; NIV, 1933, April:4; NIV, 1935, June:5).

The policy of the Catholic mission at Avu Avu changed little over the years, with Jean Boudard resident as priest from 1907 to 1942. At no time did the Catholics attempt to move people from their traditional sites but, by the same token, neither did they oppose the government's policy (98; Boudard, 1921:560; Dubois, 1932). Some resettlement of bush population occurred in the vicinity of Avu Avu and Lauvi Lagoon (Paravicini, 1931:106), the environs of the latter area were always considered to be a particularly tabu (forbidden) place probably due to the presence of crocodiles as well as numerous mosquitoes which proliferate in the swampy fringes of the lagoon (54).

A new mission, the Seventh Day Adventists, entered the Weather Coast in 1926 (Wilson, 1927). By 1931, SDA teachers led by Norman Ferris (54; Hilliard, 1966:448) were evangelizing in Talise and Bota Moli, and gained a following in Vatumanivo, the Areata-Vatalena region, and at Beso and Kopiu (WPHC-IC, 1932; Fig. 2.1). Like the SSEM, the SDA insisted on building new villages where ever its followers gathered. However, unlike the SSEM, the SDA rated village and personal cleanliness high on the list of Christian virtues (54). Their prohibition against the consumption of pork, while decreasing the people's intake of animal protein, certainly made village hygiene easier. The SDA encouraged the building of houses with a wooden floor raised off the ground on piles. Compared with the traditional Guadalcanal house, which was constructed without windows so as to keep out enemies and malevolent spirits, SDA dwellings had windows.[23] Such measures assisted in the prevention of pulmonary diseases. With strict rules of village sanitation, the SDA people do not appear to have suffered in terms of health by the act of nucleation, since they had a new set of customs to cope with a dramatically new style of living.

It had taken some time and many lives for the early mission groups and the government to learn that an enforced change in settlement patterns and general life style of village people had repercussions on the overall health of the Weather Coast population. These repercussions were frequently detrimental and exacerbated by the impact of alien diseases.

Alien Diseases, Village Relocation and Mortality, 1910-1940

Prior to the coming of Europeans, the Weather Coast population was far from healthy. Among the diseases that were endemic were malaria, yaws (Treponema pertenue), hookworm (Ascaris lumbricoides), trachoma, and various skin ailments such as bakua (Tinea imbricata), while leprosy and tuberculosis are no longer thought to be recent introductions (Eyres, 1974). Many of these served to debilitate as well as carry off large numbers of the population.[24]

However, evidence suggests that initial contact with the West brought in its wake influenza, whooping cough, bacillary

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23 For an example of a typical SDA village, see Cormack (1944: 160). The Melanesian Mission followers appear to have adopted this practice also, but when this was first encouraged by them is not known.

24 For a discussion of pre- and early contact health conditions, see Bennett (1974:121-5).

dysentery, and some venereal diseases, all of which probably caused a decline in the population of the Weather Coast during the first fifty to sixty years of contact. Nor was this decline necessarily universal or uniform for affected areas Marau and Moli were the areas worst affected. Being near to the Marau anchorages (Fig. 2.1), the population of these easern sections was constantly exposed to sickness transported on visiting ships and trading vessels. As early as about 1895, entire hamlets in the Bota Moli area were decimated by piro, or illness (Fig. 2.5). The Talise area was susceptible too, as it was a popular landing place for returnees from Fiji and Queensland. In 1914 at least nine settlements in the Areata-Talise region lost all their population in a severe dysentery epidemic introduced by returning laborers from the Moonta, one of the last Fijian vessels to visit the Weather Coast (Bennett, 1974:125-40). Survivors from other villages in the area either abandoned infected places or moved elsewhere (61; 68; Fig. 2.5), resulting in the area's "general wretchedness" (Wilson, 1923).

When overseas recruiting ceased in 1910, men continued to leave the Weather Coast to work on copra plantations in other parts of the Solomons. For some years the recruiting vessels and plantations were sources of disease and hence infection for the laborers' home areas. The most common causes of illness and mortality among plantation workers were bacillary dysentery and pulmonary diseases (Bedford, 1970:1-3). Dysentery had reached such epidemic proportions in late 1914 that the Acting Resident Commissioner, Barnett (1942:September 22), suspended all recruiting for some months and then introduced compulsory inspection of vessels at Tulagi and more rigorous standards of hygiene for vessels and plantations (Barnett, 1914b:October 27).

Unwittingly, the government and the missions had created conditions that assisted in the spread of infection from returning laborers and other outside sources. By the establishment of peace, mobility was greatly increased and one traditional barrier to the spread of infection therefore removed. The government's well-intentioned policy of village nucleation and relocation, supported by the SSEM and the Melanesian Mission but not opposed by the Catholic mission, most seriously affected the bush population whose traditional settlement patterns favored ridge crests and hill tops. In 1898, Woodford (1899) found settlements and gardens at 2,400 feet (731.5 meters) and 2,700 feet (823 meters) in the mountains behind Biti (Fig. A11). At an altitude above 1,500 feet (457 meters) the malaria vector Anopheles koliensis, which favors riverine areas, is rarely found while the other vector of inland areas, A. punctulatus, is not numerous (BSIP, 1971:56; BSIP-MD, 1961). Yaws also has an altitude variation, becoming less prevalent at about 1,600 feet (500 meters; Pirie, 1972:189).

When the people moved downslope into the river valleys and closer to the coast, they were certainly more susceptible to these endemic diseases as well as to introduced ones. The establishment of permanent "Government" villages, where people were ordered to live continuously, cut across the old komuruka system which had provided a degree of protection from the spread of disease by contagion: what Hermant and Cilento (1929:64) called the "safeguards of savagery" were lost. Dysentery was one disease that thrived in the new conditions of residence, especially inland where people used a convenient spot near the settlement for disposal of personal waste matter. When only five or ten people so utilized their hamlet surroundings the risk of infection was slight; when the same area was occupied by 50 to 150 people--and their pigs and dogs--the precarious balance of sanitation was often upset, particularly during the wet season. During this period, village rules regarding the use of specific areas by certain individuals were sometimes broken because people found it inconvenient to walk far and when flooding washed out these areas, the danger of contaminated water supplies increased. In the 1920's, for example, the villages of Valearanisi (42) and Inakaro (37; Fig. A12-13), which had expanded under government and mission pressure were afflicted with dysentery, but their inhabitants scattered when deaths occurred.

From approximately 1925 to 1928, a serious form of influenza swept parts of the Weather Coast. The "government" village of Nakavoa (Fig. A17) was affected but the people's fear of administrative censure was such that they sought permission before leaving the site and reverting to hamlet living (Chapman, 1966). An unidentified, but large village of 200 inhabitants, inland from Kolina (Fig. 2.1), was completely decimated by influenza about 1926.

Although settlement patterns on the coast had not been as drastically altered as those of the bush, coastal villages also suffered under the policies of consolidation and relocation. Paravicini, walking along the beach in 1928, saw many dilapidated huts indicative of population debilitation at villages around Wanderer Bay and at Marasa, Ghorobau, Bolonda and Kolina (Paravicini, 1931:119). Villages near Sughu (Talise) suffered waves of both influenza and dysentery which carried off many people (ef. Figs. 2.5 and A14-15). In some cases, entire villages ceased to exist (62; 68). As Talise was a popular anchorage, it was here that many returning plantation workers from Malagheti, Areata, Vatalena and even Longgu landed (Fig. 2.1), bringing with them new batches of pathogenic micro-organisms. Paravi,ini (1931:106) summed up the effects of relocation near Avu Avu:

"Tangiatta [sic.] is a new settlement, to which the inhabitants had moved from an inaccessible mountain village . . . Many of the huts are in ruins, their occupants dead. They fell victims of the unaccustomed coastal climate. Here the inconsiderate white official and missionary did a grave misdeed, although they believed [themselves] to be correctly applying hygiene and welfare as they had so superficially learned them from books." (Translation from German).

Further east at Nakili (Fig. A17), the home of the sophisticated headman Ari Aris, many died of sickness in the early 1920's (79). The entire population of the nearby village of Komunaughai (86) succumbed, as did those of Namounawhai, the latter having been ordered to the coast by Ari Aris on his authority as government headman (79). In 1928, along the coast at Purakiki, Paravicini and his guide, a labor recruiter, were almost attacked because they unwittingly attempted to enter the village where a few days earlier eight young men had died from illness (Paravicini, 1931:99-100).

It is quite impossible to calculate how many people died from disease in the years preceding the first head counts [25] in 1925; on this issue Hermant and Cilento's (1929:65) comments for the whole of Melanesia are equally pertinent to the Weather Coast: "In investigating the question of depopulation in Melanesia the outstanding feature was the prevalence of opinions and the paucity of authentic figures." With the risk of adding to these opinions, some notion of the possible scale of population decline in the first three decades of this century can be gleaned from missionary sources and labor records.

Away from the Weather Coast, in north-west Guadalcanal at Visale (Fig. 1.4), the priest Pellion spoke dolefully in 1909 of the decline of his Catholic population: "The children are thus not very numerous. If any survive at all. Alas, the mortality among them is terrible and I find in my baptismal register whole pages where of fifteen names there are only a few surviving" (Pellion, 1910:629;translation from French). Paravicini, (1931:48), who visited Visale in 1928, provides

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[25] Head counts were made by the headmen for the District Officer. While they indicated the general number of people in any area, they had the disadvantage of being made at different times in different sections of a general locality like the Weather Coast. Occasionally not all the population would be captured due to internal mobility (see Chapter 3).

additional verification: "The community of Veisali today has 450 Catholic inhabitants. During the last six years, all corpses have been buried in one cemetery. During my visit I counted the graves of 18 old men, 15 women, 12 boys and 10 girls."

(Translation from German).

Of more relevance to the Weather Coast was the position at the Marau Catholic mission. Between 1904 and 1923, the slow conversion of the people was measured by the baptism of 203 adults and children. In 1923, only 40 of these 203 were still living, the remainder having been "decimated by all sorts of maladies." The total population, presumably 'Are'Are, was then about 200 (Raucaz, 1907:179). Summaries from labor reports between 1914 and 1940 indicate what diseases were prevalent on the various commercial plantations and by inference, on the Weather Coast during this period (Table 2.2). Likewise, it can be inferred that Weather Coast mortality trends roughly paralleled those for plantation labor because men returning home constituted the chief source of introduced diseases during this period. Although crowded plantation conditions facilitated the spread of infection, those who were away on plantations were certainly among the healthiest on the Weather Coast.

Table 2.2

CAUSES OF MORTALITY ON PLANTATIONS 1915-29

1915	Dysentery accounted for 59.6% of all deaths. In the previous years, dysentery accounted for 58.7% (101 deaths) of all deaths
1917	Dysentery declined in importance. Only 12 deaths due to dysentery.
1919	A serious flu epidemic. Thirty out of 104 deaths due to influenza.
1921	Forty-eight of 140 deaths due to influenza.
1926	Thirty-three of 103 deaths due to influenza and pneumonia.
1929	Outbreak of poliomyelitis resulted in the prohibition of recruiting for two months.

Source: Bedford (1970:1-3).

Groenewegen (1972:10) has compared the number of deaths on plantations (1915-40) with the total employed and concludes that the mortality rate on plantations prior to 1930 was extremely high (Table 2.3). However, as Groenewegen notes, these death rates may be too low because the information available is for single years, yet many men did not work an entire year. As most

Table 2.3

ESTIMATES OF LABOR MORTALITY IN THE B.S.I.P., 1915-1940

Year	Labor Employed at Beginning of Year	Total Recruits for year	Recruits from Guadalcanal	Total Labor Employed	Labor Mortality	Mortality Rate 1,000 Plantati Years Worke Groenewegen (1972:9-10)
1915	1,403	2,855	304	4,255	119	28.0
1916		missing				
1917	2,303	1,967	227	4,270	74	17.3
1918	2,898	1,888	175	4,786	76	15.9
1919	3,462	2,028	221	5,490	104	18.9
1920		missing				
1921	4,182	2,668	390	6,796	140	20.6
1922	3,743	2,400	452	6,143	115	18.7
1923	3,964	2,188	265	6,152	90	14.6
1924	3,704	2,062	295	5,766	68	11.8
1925	3,509	2,232	551	5,741	71	12.4
1926	3,703	2,665	437	6,368	103	16.2
1927	3,755	2,360	386	6,115	83	13.6
1928	3,840	2,176	399	6,016	83	13.8
1929	3,166	2,005	302	5,171	58	11.2
1930	3,454	1,909	293	5,363	50	9.3
1931	3,189	1,112	188	4,301	26	6.0
1932	2,187	1,726	327	3,913	17	4.3
1933	2,430	1,103	259	3,583	28	7.8
1934	3,410	1,163	249	3,578	23	6.4
1935	1,871	1,122	97	3,096	17	5.5
1936	2,109	1,146	220	3,457	44	12.7
1937	2,059	1,264	207	3,607	40	11.1
1938	2,560	1,129	274	3,993	22	5.5
1939	2,478	1,015	273	3,796	33	8.7
1940	2,278	1,023	202	3,459	18	5.2

[a] Assuming that half of labor employed at beginning of year left by the end of the year that recruits and departures were spaced evenly throughout the year.

Data Source: Bedford(1970:4).

signed on for two-year contracts with escape clauses, the number employed at any one time was usually less than two-thirds the total number who worked sometime during a particular year. A more realistic estimate of the average number of plantation-years worked is obtained by halving the combined total of persons employed at the beginning of one year and those employed at the beginning of the next. Mortality estimated on the basis of these revised plantation-years is much higher than Groenewegen obtained and, before 1928, extremely high. After 1928 improvement was marked, with the exception of the years 1936 and 1937.

Using the project estimates from Table 2.3, average death rates for plantation labor (1915-30 and 1931-40) can be compared with yearly mortality rates for selected age groups and life expectancies derived from the West model life tables (Coale and Demeny, 1966:Part II:2). Up to 1929, the plantation death rates were well in excess of the West model life table figures (Table 2.4), whereas the average death rate for 1931-40 shows a rough correspondence with that of the model life table. If

Table 2.4

COMPARISON OF AVERAGE DEATH RATES FOR PLANTATION LABOR WITH SELECTED YEARLY MORTALITY RATES FROM WEST MODEL LIFE TABLES

	West Model Life Table Yearly Mortality Rates per Thousand	
	1915-1930	1931-1940
Expectation of life at birth	18.033	30.076
Males: 15-19	13.45	8.63
20-24	19.34	12.32
25-29	25.44	13.79
Average death rate of plantation labor	25.9	11.7

Data source: Table 2.3 and Coale and Demeny (1966, Part II:2).

Weather Coast mortality trends at all followed labor mortality trends, then mortality was extremely high during the 1910's and 1920's, but declined considerably in the 1930's. Certainly this conclusion is reinforced by returns from early Guadalcanal head counts and the 1931 census which show a sharp drop between 1925 and 1929, from 18,434 to 14,716, with a more gradual decline to 14,215, between 1929 and 1931. Divisional head counts are unavailable for 1925, but those for 1929 indicate only a moderate decline in the Weather Coast population between that year and 1931 (Table 2.5). By 1936, the population had risen slightly to

Table 2.5

POPULATION OF WEATHER COAST DIVISIONS IN 1929 AND 1931 (CORRESPONDING 1972 WEATHER COAST DIVISIONS IN PARENTHESES).

Census Division	Population 1929	1931	(Per Cent) Change
Sughu (Wanderer Bay and area outside Weather Coast)[a]	1852	1879	+1.5
Talise (Duidui, Vatukulau, and Talise)	3052	2972	-2.6
Avu Avu (Avu Avu and partly outside of Weather Coast)	921	876	-3.1
Moli (Moli, Tetekanji, and part of Marau)	969	930	-4.0
Marau (part of Marau and partly outside Weather Coast)	644	545	-15.4

[a] Information in parentheses identifies the degree of correspondence with the divisions for the 1972 Weather Coast census (see Fig. 3.1).

Data Source: Bedford (1970)

14,875, indicating recovery from the decline in the late 1920's.

Such recovery notwithstanding, the decade 1930 to 1940 still saw much illness on the Weather Coast. In 1930, a whooping cough epidemic affected much of Guadalcanal and killed some adults as well as children (Wilson, 1931); at Tangarare Catholic Mission, of the 88 people who died as a result of whooping cough, 68 were babies (Dubois, 1931:June 5). The following year, a mild epidemic of influenza struck (Wilson, 1933), to be followed by a severe form in 1936 which carried off several adults in the susceptible Marau area (BSIP, 1936a). Tuberculosis continued to be a major cause of death (Pinching, 1932), killing the population of Vungatina in the Duidui bush area (25) and Vosenaga in the Vatalena region about 1935 (101; Figs. A10-11, 14-15). In the bush village of Vatubarani (population 66 in 1931) (WPHC-IC, 1932), so many died or were ill in 1935 that the government and SDA missionaries urged the dispersal of the people into smaller villages (49). Isolated dysentery outbreaks occurred in the early 1930's and were especially severe in Inaghue and Koipilua (Figs. A14-17), causing the villagers to relocate at Sughulonga (102) and Old Natita (76).

The alien institutions of government and church, which unknowingly aided the spread of disease in the late 1910's and in the 1920's, were equally responsible for introducing measures which contributed to the halt in population decline. During 1922, the first year of native taxation, the Resident Commissioner, R. Kane (1922), recorded that the only benefit people received from a centralized administration was "the blessings of settled government." He then initiated a scheme whereby men from each district were trained as dressers at Tulagi Hospital (Fig. 1.1). This training program, small scale though it was, commenced in 1924 with some of the graduates presumably returning later to Guadalcanal. In 1926, the District Officer conducted a hospital for villagers at Aola (Kane, 1928). During the mid 'twenties, too, the government supplied drugs to all missions and, by 1928, was actively subsidizing the medical work on Guadalcanal of the Methodist and Melanesian Missions.

This same year the administration, in co-operation with the Rockefeller Institute, sent medical teams to Guadalcanal (BSIP, 1932:5) which had, by 1931, covered the Weather Coast (Wilson, 1933). These teams treated both yaws using neoarspenamine injections (BSIP, 1932:5) and hookworm, using carbon tetrachloride and tetrachlorethylene (Lambert, 1941:42). In 1930, 8,965 persons were treated for yaws with 15,255 injections being given, the infection rate being 47.88 per cent. Eyres (1974), however, suggests that this high figure included both current cases and persons with signs of previous infection, which would make it a measure of those ever infected. Of these 8,965 people, 8,485 were found to have hookworm and treated. The rapid improvement in general health of those receiving such attention--particularly if having the open and visible disease of yaws--was very educative. Many people later voluntarily sought treatment at government and mission stations, having realized something could be done about their condition; it was obvious that the yaws and hookworm campaign was having an enormous and beneficial impact (Wilson, 1931). Although these campaigns were intermittent during the 1930's, general health was improved and the population thus obtained a higher resistance to other diseases. In 1936, Eroni T. Leauli, Native Medical Practitioner and a graduate of Suva Medical College, commenced duties on Guadalcanal and spent much of his time touring outlying areas (BSIP, 1936a).

By the decade of the 'thirties, the government was generally better staffed and organized and therefore more able to supervise implementation of its policies (BSIP, 1936a). Such rules as fencing pigs from the village, the regular spacing of houses to prevent spread of fire and for better hygiene, the banning of refuse disposal near dwellings, the sweeping and cleaning of villages, the encouragement of cooking areas outside the main sleeping houses, and an emphasis on bathing, were all able to be policied more regularly either by government patrols or district headmen (86; 90; Innes, 1938:35). Missionary activity reinforced these policies, particularly that of the Seventh Day Adventists at Kopiu and Veramogho (Figs. A4 and A7), where stations were established in the early 1930's. During this period the Melanesian Mission provided some medical training for a small number of Solomon Islanders, one of whom, Patteson Nganga, now living in the small village of Sameria, was in charge of first aid in the Marasa area in the late 1930's (11; BSIP, 1951a; Fig. A2). Although it was said of the Catholic Mission that "their converts seldom appear to go near water," general first aid was provided at all mission stations while at Tangarare the priest, de Klerk, saved many lives (BSIP, 1940).

As previously noted, it was becoming apparent in 1927 to the Guadalcanal district officer, Colin Wilson, that the bush people were suffering both hardship and malnutrition because of village consolidation. With everyone resident in larger settlements, there were cases where the horticultural constraint of "tolerable distance" had been exceeded. Gardens were sometimes as far away from the villages as two to three hours' walk (Wilson, 1933:Encl. 52), or 10 to 15 km. The time consumed in walking consequently meant that not enough gardens were being made and insufficient food being produced. The Catholic missionaries also noticed these adverse effects, and those at Avu Avu cultivated rice to try and supplement the diet of their school students boarding away from home. Yams were generally reported in short supply in 1928 because gardens were too small for the people's needs, but this scarcity was first noted about 1923 after many of the bush villages had been consolidated (Paravicini, 1931:107). This cumulative situation obviously weakened the bush population, in particular; made them more susceptible to infection and epidemics; and even extended to survivors of villages severly affected by disease in that they were less willing to make extensive gardens.

By the early 1930's, Wilson had convinced both his superiors and the people themselves that reversion to the old style of settlement was permissible where hardship or ill health threatened. The villagers understandably took advantage of this prospect only where absolutely necessary, because some saw it as yet another example of the apparent arbitrariness of government administrators. The overall effect, however, was to sanction increased residential mobility of the population, which benefitted both nutrition and health (Wilson, 1933:Encl. 5a). The impact of this change of policy upon the process of village nucleation and relocation is best summarized by comparing the total pattern for the periods 1914-29 and 1930-41, the second of which shows almost no nucleation and even some fragmentation of larger settlement (Fig. 2.3).

The most significant moves between 1930 and 1941 occurred in the east where Tetekanji and other Birao people (Fig. 2.1) moved to the coast. In some ways, this is an example of time lag, since the majority of the Tetekanji were not contacted by government until 1927--and then only after the people themselves had sought out the administrators to pay their taxes! Not only did they wish to pay taxes, but in the same year they expressed the intention to form permanent settlements as opposed to living in garden houses [25] (Wilson, 1928:July 18; 1927 and October 7, 1927). These isolated bush folk had no way of earning money except by selling their labor to their coastal counterparts and to expatriate planters (Kneen, 1938) and this fact, plus access to some mission education seem to have been the main motivation behind the movement of small groups to the coast (Figs. A16-19). In addition, the relatively empty lands of Bota Moli (Fig. 2.1),

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[26] In many ways the initial reaction of these people and other Guadalcanal groups to the government was couched in the "big man"-follower idiom which, of course, represents a continuity in social and political organization and an attempt to incorporate the alien into the Melanesian community.

together with old ties through marriage and strategic allegiances, facilitated such southward moves (79; 95; 98).

By the 1930's, the overall population appears to have developed, or been developing, a resistance to some of the killers among the introduced diseases. Only in 1934 was a severe outbreak of dysentery recorded (BSIP, 1935:5) and, resistance to tuberculosis had improved after sixty years of exposure, although many still died from it (Lambert, 1934:18). Gonorrhoea became entrenched in Talise in the 'thirties, its main effect being to limit the potential population growth as is reflected in fertility data from the 1970 census (see chapter 3)[27]. Leprosy was never such a widespread killer as dysentery and tuberculosis even though in 1938 the Guadalcanal rate for leprosy infection was .89 per cent (Innes, 1938:46), which is moderately high in the context of the known world maximum of about 3 per cent.

Thus the 'thirties were years when a new equilibrium between disease and the human and physical environment was being established. The population had stabilized in number, but just as a distinct increase was being noted, World War II intervened. Though the war did not actually touch the Weather Coast, the people and their villages felt it repercussions and suffered under the dislocation induced by yet another set of alien contacts.

The Second World War, Population Distribution, and Socio-Economic Change (1940-1950)

The initial effect of the War was to cause the inhabitants of coastal settlements to retreat to the hills. Although no fighting occurred on Sough Guadalcanal, almost the entire coastal

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[27] For a discussion of venereal diseases on the Weather Coast, Bennett (1974:127, 138-40).

population moved inland to form small, scattered settlements. As a former Weather Coast headmaster observed in exasperation: "all people run into the bush, so I let all the boys and girls go back to their parents and die with them" (Chapman, 1970:195). Because people did not know how long they would be forced to reside in these bush settlements, shelters were flimsy and of a temporary nature (54; 73; NIV, 1943:September; Chapman, 1966), and not sited too far distant from the permanent sites; the short distance involved consequently means that few of these temporary moves appear on the map sequence of village relocation, 1870-1972 (Fig. 2.3).

The British administration of the Solomon Islands, unlike that of Papua New Guinea, did not abandon the islands in the face of Japanese invasion. The government, too, "went bush" on Malaita (Fig. 1.1) and attempted to administer its circumscribed territory with a token staff (COI, 1946:11-21). Needless to say, until the Allies were in a more secure position, such administrative efforts had virtually no impact but they did ensure a continuous presence that facilitated greatly the actions of the Allied military authorities when the Japenese were on the defensive.

With enemy invasion and the interruption of centralized administration, all medical services provided by both government and missions broke down (COI, 1946:32). This, plus the unhealthy conditions of living in temporary bush shelters, severely affected the population of Guadalcanal. This process was intensified initially from August, 1942 to February, 1943 and subsequently from late 1943 to 1944 when there was a call by the Allies for scouts and laborers to work at the military bases and camps. Although men were not forced to sign on for the Solomon Islands Labor Corps, the absence from the village of large numbers of the able-bodied males is known to have caused hardship and cases of near starvation in late 1943 as the work force available for making new gardens decreased and nutrition subsequently suffered (BSIP, 1944).

Even before large scale recruitng for the Labor Corps [28] commenced late in 1943 (COI, 1946:34), the devastating effects of war were obvious. In December of that year, a government recruiting officer toured south from Aola, along the Weather Coast and westwards as far as Veuru, near the western bank of the Tina River (Fig. 2.1). The agent was exasperated with the reluctance of men to join the Corps, but finally recruited 250 after his patriotic speeches "awakened the natives from their ignorant lethargy" (SILC, 1943). Such a remark was both insensitive and unjust given the officer's own description of the people's general health: he estimated that 25 per cent were "robust", 65 percent "emaciated" and 10 percent "sick or maimed" (SILC, 1943).

Those who were recruited frequently fell ill at the Labor camps. At Lungga, near Honiara on the north coast, one such camp was sited on a former Japanese cemetery in which burial had been shallow. Over-crowded, malarious, and with poor latrines because of the high water table, this camp was ultimately re-sited (Poole, 1943). Occasionally, but understandably, the laborers' supply of rations failed and deaths occurred from beri-beri due to the issue of polished rice--a fact which caused Guadalcanal men to be reluctant to volunteer for the Corps (Hogbin, 1943). For the period April 1, 1944 to May, 1945, the death rate (due only to illness) was 4.4 men per month, with pneumonia, enteritis, tuberculosis, meningitis, influenza and malaria the major causes of death.

Many laborers returned home with diseases from the army camps, introducing them to an already weakened village population. Epidemics swept Guadalcanal between 1942 and 1944 resulting in many deaths, particularly of children (SCC, 1944, July).

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[28] The Labor Corps was founded in the first half of 1943, and at maximum strength had 2,500 members (COI, 1946:34).

In 1941, prior to the invasion, the population stood at 15,620 (BSIP, 1941), the highest number recorded since 1925. By 1944, it was only 13,787, the lowest reported for any head count or census since contact. In the opinion of the district commissioner, "the figures quoted are probably correct to within 1% [sic] and show the severity of the various epidemics which have appeared in the district during the past 3 years" (Bedford, 1970:4). He also commented that because of widespread relocation from coast to bush, "food stocks and gardens had fallen to but little above starvation level" (Bedford, 1970:4). The decline for Guadalcanal as a whole represented 11 per cent for the three years 1941-44 but was even more severe on the Weather Coast where the population fell by 14.4 per cent. Mortality was particularly heavy in Avu Avu and Veuru Moli (Fig. 2.1) which experienced population losses of more than 20 per cent during the same three-year period (see chapter 3).

By the close of 1944, living conditions on the Weather Coast had begun to return to normal. In his tour reports for the mid 'forties, Grass (1945) noted that "the sickness of 1944 died down" (at Veuru Moli) and that the "heavy death rate of 1944 seems to have subsided" (at Avu Avu). Urged by government patrols, the people abandoned their scattered bush shelters, returned to the coastal areas, repaired their dilapidated villages and cleared the paths between settlements (BSIP, 1944a; NIV, 1944:December).

Yet certain changes had occurred as a direct result of war, which were to prove both irreversible and irrepressible. The involvement of Solomon Islanders had important repercussions, the most significant of which was their observation of the magnitude of material reserves that the Allies, particularly the Americans, had at their disposal. The need of Western manufactured goods for utility and prestige, resulting from the nineteenth century labor trade and maintained through wage labor in the inter-war period, was greatly extended by wartime contacts with Americans, New Zealanders and Fijians, in addition to the British. These contacts intensified the discrepancies perceived by Solomon Islanders to exist between them and the alien Westerners--a condition exacerbated in the immediate post-war years by the disruption of the copra industry which had been the primary and often the only way Solomon Islanders obtained money (Worsley, 1957: 173-5).

After 1945, frustration and discontent with government attempts to resume the pre-war status quo became manifest in a series of social movements which fundamentally aimed at independence or at least increased participation by Solomon Islanders in the wider economic and political spheres that were now known to exist. In fact, the demands of the members of such movements, the central government's response, and the subsequent compromises and reassessments on both sides have dominated the cross-cultural situation on the Weather Coast from the end of the war until the present; being so enduring, they are manifest in both village relocation and post-war shifts in population distribution.

Marching Rule [29] was the first of these post-war social movements and probably the most impressive. It began on Malaita and soon spread via the 'Are'Are people in Marau to eastern Guadalcanal. Marching rule was anti-government insofar as it reasserted the Solomon Islanders identity, while its members refused to pay taxes to the central government. After two years, a confrontation with the British occurred, resulting

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[29] The name derives from the 'Are'Are word Masina meaning "brotherhood" or "brother". For a study of Marching Rule, see Allan, 1951:93-100; for its relationship with Moro Movement, see Davenport and Coker, 1967:123-175. Although marred by historical inaccuracies, Cochrane (1970) provides an illuminating study of the links between the institution of "big men", the antecedents of Marching Rule, and Marching Rule itself.

in the arrest and imprisonment of leaders of the movement.[30] (Davenport and Coker, 1967: 128). Among the teachings of Marching Rule was an emphasis on village nucleation and the relocation of bush people along the coast. On the Weather Coast, such nucleation was most marked in the east, around the Hautahe-Su'u area and in the Moli villages of Matekolokolo and Naho (Fig. 2.8; compare Fig. 2.1). Naomane, the leader of the 'Are'Are people in Marau, stated this creation of larger settlements aimed to establish a community for whom gardens were to be made and worked on a collaborative basis. This emphasis on the visible signs of new unity and solidarity has characterized other Melanesian social movements (Worsley, 1968: 227-8). The form of these new villages, which resembled that of an army camp (100), may well have been a reflection of SILC experiences, while the congregating of sizeable numbers seems to reflect the traditional massing of followers around the settlement of a "big man". Government intervention weakened the political impact of the movement and the people who had relocated in Hautahe-Su'u, Matekolokolo and Naho gradually filtered back to their original homes (101; Figs. A16-19).

Marching Rule and similar movements, such as the Freedom Movement centered at Marasa (Fig. 2.1) and led in part by Patterson Nganga (11) who also served in the SILC, sprang from a common desire for indigenous control or fuller participation in political and economic processes. In the Talise area (Fig. 2.1),

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30 The Marching Rule movement was by no means a failure. It achieved real change, but within the context of the British Administration rather than outside it. Re-adjusting its goals to the then political situation, it legitimized its activities within the Malaita Council, achieved a parity with the British and consequently, recognition of the worth of both Malaita "big men" and Malaita society in general. See Cochrane. (1970: 88-96)

this was expressed through the wish for local councils[31] and amongst the bush people of Marau-Moli in efforts to engage in self-directed economic enterprise. In both Talise and Marau-Moli, supporters believed they could attain their ends through co-operation with the central government while those of the Freedom Movement apparently wanted political independence.

In pre-war years, Tetekanji and Birao men of the Moli and Marau and bush (Fig. 2.1) had always been forced to leave their homes for labor on plantations to acquire money for their material wants and to pay their government tax. Their experiences of the war, following the apparent return to pre-war conditions, led to greater dissatisfaction. A government officer touring the area in November 1947 commented that the people "have an entirely reasonable and understandable objection to working on plantations for the gain of people not of their own race, working on land which was originally theirs, and which they lost through the unscrupulous guile of the white man and their simplicity" (Spence, 1947). Positive action to relieve this situation was attempted by John Sulu and Javan Bambaua, who in 1947 sought official permission to develop the neglected but expatriate-owned plantations in and near Marau (Spence, 1947; Sulu, 1947; Bambaua, 1947). Unfortunately, reoccupation of these prevented this indigenous solution and in 1948 Sulu focussed his efforts upon developing three small plantations at Veramakuru, in Bota Moli, that were to be worked on a semi-cooperative bases (Bentley, 1948).

As government headmen (BSIP, 1949; 1950), Sulu (of Tetekanji) and Bambaua (of Marau bush) both devised co-operative district schemes in the early 1950's so that their people could participate in the limited cash cropping opportunities of the Weather Coast and adjacent areas in the east. (Spence, 1947; Wrightson, 1952). In these enterprises, too, can be seen opposition to attempts by Marching Rule followers to absorb or purchase all the available

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[31] Establishment of local government councils started in 1945 and was almost completed by 1950. The Guadalcanal council was established in 1953. (Davenport and Coker, 1967: 128, 131).

or potential commercial land on the eastern Weather Coast. As Sulu and Bambaua, in the perception of the British Administration, were pro-government whereas Marching Rule was anti-government, it is not surprising that no official encouragement was given to the latter's activities (BSIP 1951b). Both men were present at the preliminary meetings of the embryonic Guadalcanal (local government) Council in July, 1951 (BSIP 1951c), and September, 1952, the latter of which the subject of village concentration was considered (BSIP, 1952). Subsequently, village leaders in the bush areas of Moli were urged by John Sulu to move their people closer to areas where cash cropping was a feasible economic proposition.[32] Such a proposal was doubtless reinforced by talk of government building a tractor road along the coast, whereby produce could be taken to Marau and then shipped to Honiara. (Grass, 1947). The fear that the dynamic 'Are'Are might encroach on the coastal Bota Moli lands may also have influenced Sulu and his followers.

In conducting meetings throughout the Moli bush,

John Sulu argued that produce could be shipped more easily if nucleated settlements were established near or on the coast, since little carrying would need to be done to temporary anchorages. Larger settlements were also of practical value in that women and children would be more secure in such villages when their men were away for wage labor. Sulu's proposals were widely discussed and finally accepted about 1952-53 (Chapman, 1966). Within Bota Moli, large numbers of Tetekanji moved to the coast at Tavala and Vatulava (92; Fig. A18-19). Some Tetekanji people also joined the villagers from Sesadou in the upper reaches of the Manauvo river, who moved to the coast at old Sanggasere (83) and Oa (95). What might be called the "Tetekanji corridor," the valley of the Tanahecha River (Fig. 2.1), saw the gradual filtering of people from Osanakaro to Navasa, a

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[32] The time sequence is not completely clear. Sulu may have urged village relocation prior to the Guadalcanal council meeting (Chapman, 1966).

coastwards movement which still continues today (98). The bush people of the Sabahalava moved further south to Nakongga, while a new and larger village, Pichahila, was built on the east bank of the Alu Alu river where people from Namuri, Old Pichahila, Ngasughulonga, Makanakolo and Kokuvatu amalgamated (Chapmen, 1966; Figs. A16-17). Further west, near Lauvi lagoon, most of the Naravu people moved south to the coast at Ngaliachelu while others joined their relatives at Nakonga (70).

Elsewhere on the Weather Coast local councils, backed by the central government and the missions, urged coastwards relocation (Fig. 2.6). Although the distances involved were not as great as for the Tetekanji, this process can be seen in the Tina River valley (Fig. 2.1), one of the few inland areas suitable for cash cropping yet relatively undistrubed by periodic flood destruction. In the Ghari area (Figs. A8-9) amalgamation occurred at Ghauvalisi on the west bank of the Tina, while on the opposite bank the isolated villagers from Tovosine, Vatuvisa, Takoka and Kochitoa moved to Poisughu (Figs. A10-11). Some of the people from Takoka chose to go to Vunusa (Fig. A3) to join relatives in 1952 (25) and yet others from Biti moved inland to Vatukapicha, where the chances of successful cash cropping were greater than on the rugged coastal strip (20). Much farther east, in Veuru Moli, the headman, Dominico Alebua, followed council instructions and persuaded the inhabitants of Lame to move to Old Haimatua (75; Figs. A16-17).

While the climate of administrative opinion was favorable to relocation, the initial impetus to such moves often came from perceptive "big men" who saw, in addition to the opportunity for greater participation in a money economy, the value of access to educational and health facilities which were located on the coast (Fig. 2.8). Clearly, too, "big men" who mediated the participation of their followers in such benefits accrued greater personal prestige. Marcus Pipisi was one such "big man". Chapman, while in Duidui (Fig. 2.1) in 1966, recorded that following the war Pipisi wished to move his family and followers from the inland village of Malisa to the coastal site at Ngalilapina (Figs. A10-11). He decided on such a plan while a member of the SILC and when subsequently working for the redoubtable Jacob Vouza. Pipisi decided to move because "bush no good for me, must go down to beach and do some farming, plant some more coconuts. I think stay in bush but no change, no good living or schooling or church." At first, some resisted his ideas because in Pipisi's words, "they not know what about the future. They live to eat and sleep and die." By 1953, in a series of classic "big man", economic and political maneuvers, Pipisi gradually broke down this opposition and attracted not only the Malisa folk but also people from Kolina and Bubuleleoa (Chapman, 1966).

Similarly, Jo Ongavi in the Areata area led the people of Komu southwards to Choghiri where they were joined by those from Makangere about 1953 (56; 61; Figs. A14-15). Yet other dynamic leaders were able to persuade their communities to relocate closer to the coast when the opportunity, such as afforded by the death of a "big man" or village destruction by natural disasters, made such a task easier. Examples of such movement from the bush can be seen to Masi in Veuru Moli (79; Figs. A18-19) and from Bulukona to Ngaliachulu near Avu Avu (76; Figs. A16-17).

Just as in the early 'fifties the Tetekanji and Birao people were moving south into Bota Moli to establish settlements on land suitable for cash cropping, so also was there begun a series of lateral moves into this area from the west. Between 1950 and 1953, workers at the SDA mission at Kopiu (Fig. 2.1), who came from Vosenagha and Sukiki, bought land at Kopiu Bay after retiring from mission employment (82; 101; Fig. 2.9). Likewise from the east the 'Are'Are had infilitrated Waimaea and even Balo through marriage alliances.[33]

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[33] Based upon replies to questions contained in the 1972 project census.

During this post-war period moves coastward were both stimulated and maintained by the provision of services. Village schools reopened and there was some expansion at the main SDA school at Kopiu (Andersen, 1947). As early as 1945, two medical dressers were installed at aid posts in the Moli area (Grass, 1945); in 1947 a dresser was working at the Avu Avu mission (Grass, 1947); and by 1950 there were two more located in coastal settlements west of the Koloula River (BSIP, 1950a; Fig. 2.1). Although such school and medical services were limited, they represented an enormous improvement on the pre-war situation and provided additional stimulus for the consolidation of coastal living.

Overview

By the 1920's, following about fifty years' contact with Westerners, the influence of the labor trade, the various missions and a colonial administration upon population distribution and settlement format was evident. The cessation of tribal warfare permitted greater mobility of a village-dwelling population and traditional settlement patterns were modified by the outsiders to suit their administrative convenience. Yet while features of these modifications were changes--such as relocation of villages from mountain crests to valleys--they were more changes of degree than of kind. The movements of groups to valley or coastal sites were generally within clan-owned lands. Where new lands were settled, the right of residence was negotiated through customary ties and by marriage, line and prior occupancy. Although in post-war years the distances covered as a result of village relocations have sometimes been considerable and crossed the boundaries of clan lands, as from central Talise to Bota Moli, this mediation by kin and customary purchase has persisted and demonstrates a cultural constant over time.

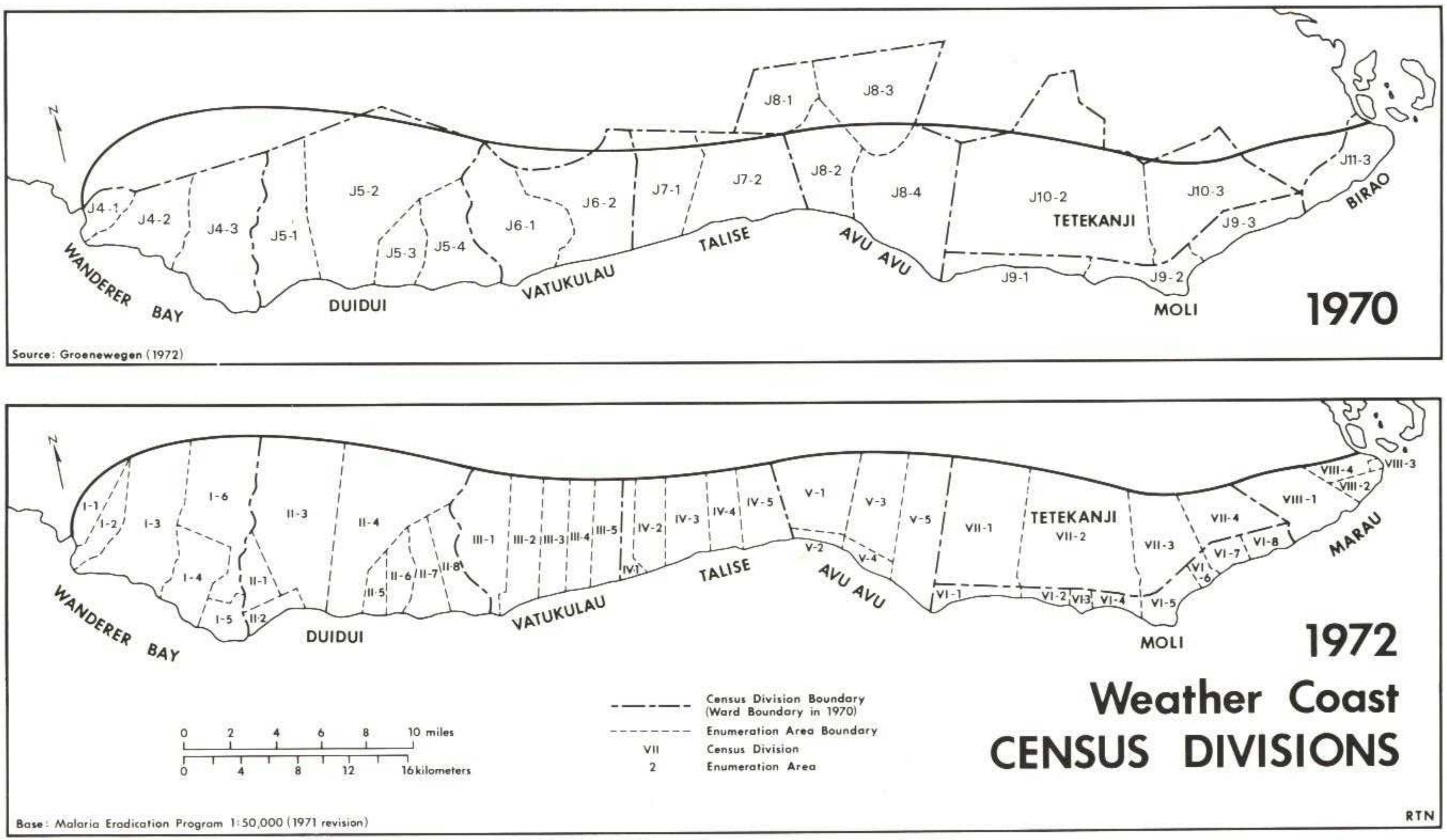
Similarly, nucleation and relocation were, as such, not intrinsically different from pre-contact experience. Weather

Coast people then, as today, were forced to move their villages frequently because of natural disasters. Earthquakes, floods, tidal waves, and landslides constantly caused relocation. Such moves, like those caused by illness, were responses to emergency situations which forbade protracted negotiations involving land purchase and thus generally occurred within the boundaries of clan land.

Even if these difficulties had been absent, the relocation, fusion and fission of villages would still have been usual events for the nature of the "big man" system guranteed this. Moreover, the method of horticulture--a shifting system with bush fallow--made the moving of all or parts of a settlement a regular occurrence, particularly in bush areas. In essence, the Europeans were reinforcing a well-established pattern, the very commonplaceness of which added to the likelihood of extending it by force of arms and through the Christian word.

The movement of people from inland coast to coastal areas, was initially encouraged in pre-war years by some missions and the government, has accelerated since 1945 through the attraction and peripheral location of health and education services and better economic opportunities. The desire for these was heightened by the war experiences of many Weather Coast men, who thereby became aware of a wider range of possibilities than had existed under pre-war colonial rule. Since the fifties, much of the impetus underlying coastward relocation has come from perceptive "big men" who, like the leaders of both Marching Rule and the Moro Custom Company, voiced the people's ambition for overall socio-economic betterment.

This cultural continuity in the nature and characteristics of population movement since 1870 is captured in as simple a measure as the mean distance travelled (Fig. 2.3 and Table 2.1). Apart from moves resulting from "big-manship" and need for land, all movements occur within a range of means from 1.3 km. to 2.1 km. Not only do these generally fit within the average area of one square mile for clan land that Hogbin (1937:67) specifies, but they also embrace reasons that both pre- and post-date alien contact (illness and natural disasters versus government and mission). Excluding warfare, the two reasons that lead to the crossing of clan boundaries, "big-manship" and need for land, could never ever occur without negotiation among kinsmen.


J4-1
J4-2
J4-3
J5-1
J5-2
J5-3
J5-4
J6-1
J6-2
J7-1
J7-2
J8-1
J8-2
J8-3
J8-4
J9-1
J9-2
J9-3
J10-2
J10-3
J11-3
WANDERER BAY
DUIDUI
VATUKULAU
TALISE
AVU AVU
TETEKANJI
MOLI
BIRAO
1970
Source: Groenewegen (1972)
I-1
I-2
I-3
I-4
I-5
I-6
II-1
II-2
II-3
II-4
II-5
II-6
II-7
II-8
III-1
III-2
III-3
III-4
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VI-4
VI-5
VI-6
VI-7
VI-8
VII-1
VII-2
VII-3
VII-4
VIII-1
VIII-2
VIII-3
VIII-4
WANDERER BAY
DUIDUI
VATUKULAU
TALISE
AVU AVU
TETEKANJI
MOLI
MARAU
1972
Weather Coast
CENSUS DIVISIONS
0 2 4 6 8 10 miles
0 4 8 12 16 kilometers
Census Division Boundary (Ward Boundary in 1970)
Enumeration Area Boundary
VII Census Division
2 Enumeration Area
Base: Malaria Eradication Program 1:50,000 (1971 revision)
RTN

Figure 3.1

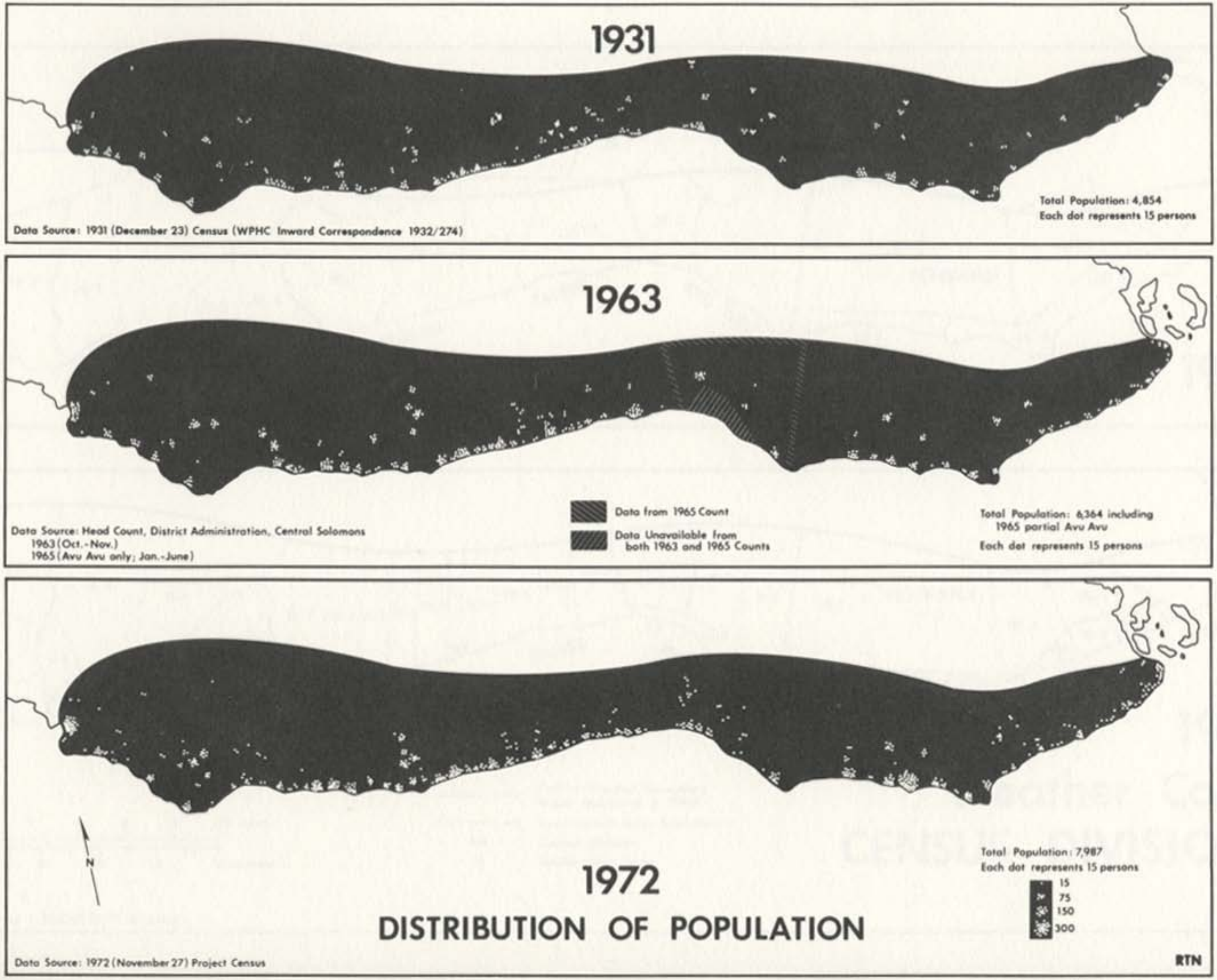
1931
Total Population: 4,854
Each dot represents 15 persons
Data Source: 1931 (December 23) Census (WPHC Inward Correspondence 1932/274)
1963
Data from 1965 Count
Data Unavailable from both 1963 and 1965 Counts
Total Population: 6,364 including 1965 partial Avu Avu
Each dot represents 15 persons
Data Source: Head Count, District Administration, Central Solomons
1963 (Oct.-Nov.)
1965 (Avu Avu only; Jan.-June)
N
1972
DISTRIBUTION OF POPULATION
Total Population: 7,987
Each dot represents 15 persons
15
75
150
300
Data Source: 1972 (November 27) Project Census
RTN

Figure 3.2

Chapter 3

POPULATION: THE PROJECT CENSUS*

The census was taken on November 27th, 1972, using local enumerators trained by project members in each district. To facilitate comparability, the census division boundaries closely followed the ward boundaries of the 1970 Protectorate-wide census as can be seen in Fig. 3.1.

Distribution and Size-Class of Settlements

The overall distribution of population on the Weather Coast may be seen in Fig. 3.2, along with the distribution as of the 1931 census and the 1963 head count. For the most part, village clusters cling to the coast through the length of the region, and are a reflection of the availability of flat land. While a slight shift from bush toward coast is evident over the forty year period, there is no doubt that sizeable numbers of Weather Coast people remain bush dwellers, especially in the Wanderer Bay, and Avuavu districts, but also in parts of Duidui, Vatukulau, and Talise, as well as Tetekanji, which has no coastline. Growth of the population over this period is also evident from the maps (Fig. 3.2), particularly in the Moli division.

The actual numbers for each census division are given in Table 3.1, for both <u>de facto</u> and <u>de jure</u> counts, along with the area and average densities of each division. Surprisingly, Moli, the district with the greatest number of persons, is next to smallest in area, although when viewed in the context of an important social movement and general physical conditions this becomes plausible. It follows that the density of population is greatest in the Moli division as well. Less surprising is the lowest concentration of people in the Tetekanji division, since this is the second to largest division, located entirely inland. A comparison of Figures 3.2 and 5.4 does much to explain the overwhelmingly coastal location of most of the Weather Coast population, although historical and

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*By Paul Wright, assisted by Murray Chapman, Robert Freeman, David McLure and Ann Midkiff.

Table 3.1

WEATHER COAST POPULATION, 1972

BY CENSUS DIVISIONS

Census Division	Population	Area sq. mi.	Area sq. km.	Persons sq. mi.
Wanderer Bay				
de facto	1278	74.21	184.5	17.22
de jure	1298			17.49
Duidui				
de facto	1469	123.08	306.00	11.93
de jure	1772			14.39
Vatukulau				
de facto	1286	55.20	137.25	23.29
de jure	1529			27.69
Talise				
de facto	735	46.15	114.75	15.92
de jure	891			19.30
Avuavu				
de facto	727	47.06	117.00	15.44
de jure	745			15.83
Moli				
de facto	1546	23.53	58.50	65.70
de jure	1187			50.44
Tetekanji				
de facto	385	103.17	256.5	3.73
de jure	433			4.19
Marau				
de facto	569	19.00	47.25	28.72
de jure	570			29.99
Total de facto	7987			
Total de jure	8425			

Source: Project census, 27 November 1972

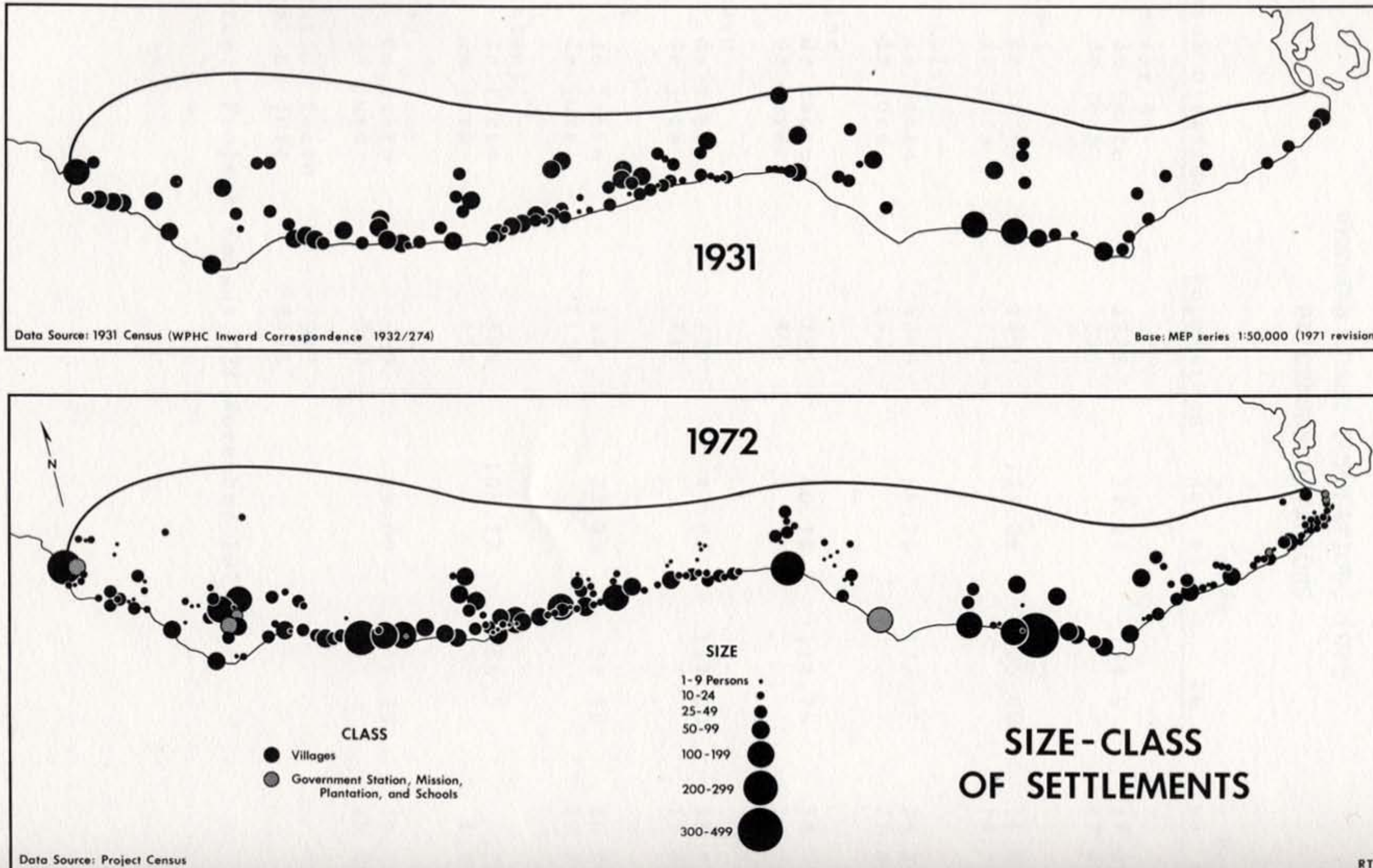

1931
Data Source: 1931 Census (WPHC Inward Correspondence 1932/274)
Base: MEP series 1:50,000 (1971 revision)
1972
N
SIZE
1-9 Persons
10-24
25-49
50-99
100-199
200-299
300-499
CLASS
Villages
Government Station, Mission, Plantation, and Schools
SIZE-CLASS OF SETTLEMENTS
Data Source: Project Census
RTN

Figure 3.3

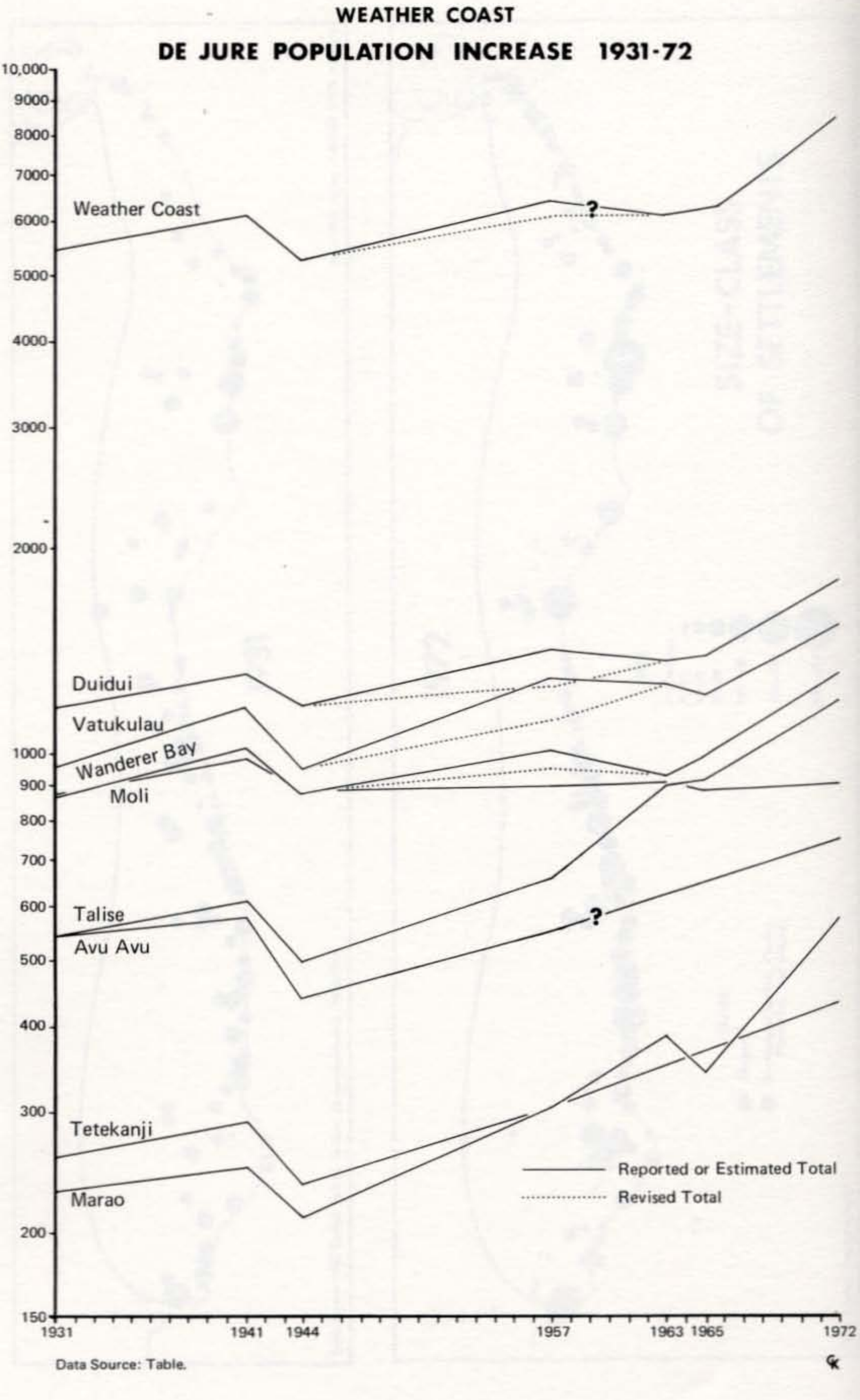

WEATHER COAST
DE JURE POPULATION INCREASE 1931-72
10,000
9000
8000
7000
6000
5000
4000
3000
2000
1000
900
800
700
600
500
400
300
200
150
Weather Coast
?
Duidui
Vatukulau
Wanderer Bay
Moli
Talise
Avu Avu
?
Tetekanji
Marao
Reported or Estimated Total
Revised Total
1931
1941
1944
1957
1963
1965
1972
Data Source: Table.

Figure 3.4

other factors have been influential at times.

As is found throughout the Solomon Islands, there is considerable variation in the size of villages, and the Weather Coast, with a range from those with fewer than 10 persons to one with over 300, is no exception. A comparison of the 1931 and 1972 situations as shown in Fig. 3.3, suggests that this range was not always present, since the largest villages in 1931 contained less than 200 persons, and most had fewer than 100. However, it is also apparent that the number of very small villages has increased as well, which probably reflects the overall growth of the population, which is also depicted in Fig. 3.4.

It is obvious that the second World War had dramatic, if indirect effects on the Weather Coast population, and that once the war ended, the steady rise which had preceded it was resumed, leveling off in the late 1950s. The accelerated rate of increase since the mid-1960s may be attributed to the generally improved health following the successful malaria eradication campaign. It is possible that some of the apparent decline in 1963 and 1965 may be explained by under-enumeration rather than actual trends.

Table 3.2 compares big name villages throughout the Weather Coast by size-class, cumulating data available from successive censuses or head counts.

The 1963 census enumerated more villages than the 1965 census, which left many small villages out and presumably assigned the population of at least some of them to the nearest larger villages. Hence, the differences between the 1963 and 1965 censuses are apparent, rather than real.

The category "1970 where comparable to 1963 and 1965" refers to villages enumerated in 1970 and 1965 and/or 1963. Surprisingly, the results indicate even smaller villages than in 1965 and 1963. However, the 1970 census was <u>de facto</u>, rather than <u>de jure</u> and many residents could have been at work elsewhere. Furthermore, it is possible that a few of the 1963 census village counts included adjacent small villages. However, it does seem that the average size of villages was <u>not</u> increasing during this period.

Table 3.2

Comparison of Big Name Villages 1963-1972 on Weather Coast of Guadalcanal

	1963			1965			1970 where comparable to 1963 & 1965		
Class Size	No.	%	Cumulative %	No.	%	Cumulative %	No.	%	Cumulative %
0	0	0	0	0			0		
1-9	6	6.1	6.1	1	1.3	1.3	8	9.0	9.0
10-24	23	23.5	29.6	13	16.9	18.2	27	30.3	39.3
25-49	27	27.6	57.2	16	20.8	39.0	23	25.8	65.1
50-74	18	18.4	75.6	17	22.1	61.1	15	16.9	82.0
75-99	11	11.2	86.8	11	14.3	75.4	6	6.7	88.7
100-149	11	11.2	98.0	10	13.0	88.4	5	5.6	94.3
150-199	2	2	100.0	6	7.8	96.2	3	3.4	97.7
200-249				3	3.9	100.1	0	0	97.7
250-299							1	1.1	98.8
300-349							0	0	98.8
400-449							1	1.1	99.9
	98			77			89		
	Median Size		43.5			62.4			35.4
	Mean Size		48.3			77.1			49.8

	1970 where comparable to 1963, 1965 & 1972			1970 All			De Jure where comparable to 1963 & 1965		
Class Size	No.	%	Cumulative %	No.	%	Cumulative %	No.	%	Cumulative %
1-9	29	19.7	19.7	52	25.6	25.6	2	2.4	2.4
10-24	44	29.9	49.6	66	32.5	58.1	19	22.9	25.3
25-49	36	24.5	74.1	43	21.2	79.3	24	28.9	54.2
50-74	20	13.6	87.7	23	11.3	90.6	12	14.5	68.7
75-99	6	4.1	91.8	7	3.4	94.0	9	10.8	79.5
100-149	6	4.1	95.9	6	3.0	97.0	9	10.8	90.3
150-199	3	2.0	97.9	3	1.4	98.4	5	6.0	96.3
200-249	0	0	97.9	0	0	98.4	2	2.4	98.7
250-299	2	1.5	99.4	2	1.0	99.4	1	1.2	99.9
300-349	0	0	99.4	0	0	99.4	0	0	99.9
400-449	1	.7	100.1	1	.5	100.0	0	0	99.9
	147			203			83		

Continuation of Table 3.2

	1972 De Facto where comparable to 1963 & 1965			1972 De Jure compared to 63,65, & 70			1972 De Facto compared to 63,65, & 70		
0	1	1.2	1.2	2	1.4	1.4	2	1.4	1.4
1-9	4	4.8	6.0	19	13.5	14.9	21	14.9	16.3
10-24	25	30.1	36.1	41	29.1	44.0	46	32.6	48.9
25-49	19	22.9	59.0	36	25.5	69.5	33	23.4	72.3
50-74	12	14.5	73.5	15	10.6	80.1	15	10.6	82.9
75-99	10	12.0	85.5	10	7.1	87.2	11	7.8	90.7
100-149	4	4.8	90.3	9	6.4	93.6	4	2.8	93.5
150-199	5	6.0	96.3	5	3.5	97.1	5	3.5	97.0
200-249	1	1.2	97.5	2	1.4	98.5	1	.7	97.7
250-299	1	1.2	98.7	1	.7	99.2	2	1.4	99.1
300-349	0	0	98.7	1	.7	99.9	0	0	99.1
450-499	1	1.2	99.9	0	0	99.9	1	.7	99.8
	83			141			141		
Median Size			40.2			30.9			26.2
Mean Size			62.7			54.2			49.7

	1972 De Jure All			1972 De Facto All		
0	5	2.4	2.4	2	.9	.9
1-9	45	21.3	23.7	48	22.7	23.6
10-24	64	30.3	54.0	72	34.1	57.7
25-49	45	21.3	75.3	43	20.4	78.1
50-74	20	9.5	84.8	18	8.5	86.6
75-99	12	5.7	90.5	14	6.6	93.2
100-149	11	5.2	95.7	5	2.4	95.6
150-199	5	2.4	98.1	5	2.4	98.0
200-249	2	.9	99.0	1	.5	98.5
250-299	1	.5	99.5	2	.9	99.4
300-349	1	.5	100.0	0	0	99.4
450-499	0	0		1	.5	99.9
	211			211		
Median Size			23.0			21.6
Mean Size			39.9			37.9

The category "1970 where comparable to 1963, 1965 and 1972 census" refers to villages enumerated in 1970 and 1972 and/or 1963 and 1965. As the 1970 census was de facto, this category is roughly comparable to the category 1972 de facto compared to 63, 65, and 70. The results in both categories are very similar.

The category "1972 All" refers to all villages enumerated in 1970. There may be a slight bias toward the lower categories because some villages were listed only in the 1970 census and a few may have been small home villages. In view of this, its similarity to the category "1972 De Facto All" is remarkable. It stresses the point that the size class structure is remaining consistent through time.

The category "1972 De Jure where comparable to 1963 and 1965" yields results close to the 1963 results but falling between the 1963 and 1965 results. If there has been no real change, one would expect this as the 1965 census enumerated fewer small villages than the 1963 census.

The fact that the category "1972 De Facto where comparable to 1963 and 1965" yields generally smaller class sizes than the above category indicates that many residents of some villages are temporarily residing elsewhere. This can also be seen in a comparison of the last four categories.

Tables 3.3 through 3.10 permit similar comparisons of class-size to be made for each census division.

The information in the preceding tables is summarized in Table 3.11. Parts a. and b. indicate, as is generally recognized, that villages appear to be largest in Duidui and smallest in Marau. The importance of how the census was taken becomes apparent in a comparison of these two parts of the table, in that the 1965 head count omitted many small villages.

In each of parts a, b, c, and d, Wanderer Bay is notable for its many quite large and very small villages. It is not until part of that the many very small hamlets in Moli become evident, as the 1963 and 1965 censuses were much less refined. By part k (1972 de facto), Duidui and Marau are still characterized respectively by having the largest and the smallest villages, whereas Avu Avu and Wanderer Bay have many villages in both extremes. Ava Avu is unusual in that two large villages, Longgu and Haimarao, contain about two-thirds of the population of the whole district.

Table 3.3

Class Size of Big Name Villages in Wanderer Bay 1963-72

Class Size	1963 No.	1963 %	1963 Cumulative %	1965 No.	1965 %	1965 Cumulative %	1970 where comparable to 63 and 65 No.	%	Cumulative %
1-9	1	6.7	6.7	0	0	0	3	23.1	23.1
10-24	4	26.7	33.4	4	36.4	36.4	2	15.4	38.5
25-49	2	13.3	46.7	0	0	36.4	3	23.1	61.6
50-74	4	26.7	73.4	1	9.1	45.5	3	23.1	84.7
75-99	3	20.0	93.4	4	36.4	81.9	0	0	84.7
100-149	1	6.7	100.1	0	0	81.9	1	7.7	92.4
150-199	0			0	0	81.9	0	0	92.4
200-249				2	18.2	100.1	0	0	92.4
250-299					0	100.1		7.7	100.1
	15			11			13		

Class Size	1970 where comparable to 63, 65, and 72			1970 All			1972 De Jure Compared to 63 and 65		
0									
1-9	10	40%	40%	12	34.3	34.3	1	7.7	7.7
10-24	5	20%	60%	11	31.4	65.7	2	15.4	23.1
25-49	4	16%	76%	5	14.3	80.0	5	38.5	60.6
50-74	4	16%	92%	5	14.3	94.3	1	7.7	68.3
75-99	0	0	92%	0	0	94.3	2	15.4	84.7
100-149	1	4%	96%	1	2.9	97.2	1	7.7	92.4
150-199	0	0	96%	0	0	97.2	0	0	
200-249	0	0	96%	0	0	97.2	1	7.7	100.1
250-299	1	4%	100%	1	2.9	100.1	0	0	
	25			35			13		

Class Size	1972 De Facto Compared to 63 & 65			1972 De Jure Compared to 63, 65, & 70			1972 De Facto Compared to 63, 65, & 70		
0	1	7.7	7.7	0	0		2	8.0	8.0
1-9	1	7.7	15.4	6	24.0	24.0	7	28.0	36.0
10-24	3	23.1	38.5	7	28.0	52.0	5	20.0	56.0
25-49	3	23.1	61.6	7	28.0	80.0	5	20.0	76.0
50-74	2	15.4	77.0	1	4.0	84.0	2	8.0	84.0
75-94	1	7.7	84.7	2	8.0	92.0	2	8.0	92.0
100-149	1	7.7	92.4	1	4.0	96.0	1	4.0	96.0
150-199	0		92.4	0	0	96.0	0	0	96.0
200-249	0		92.4	1	4.0	100.0	0	0	96.0
250-299	1	7.7	100.1	0	0		1	4.0	100.0
	13			25			25		

Class Size	1972 De Jure All			1972 De Facto All		
0	0	0	0	2	5.0	5.0
1-9	10	25.0	25.0	13	32.5	37.5
10-24	15	37.5	62.5	10	25.0	62.5
25-49	9	22.5	85.0	10	25.0	87.5
50-74	2	5.0	90.0	0	0	87.5
75-99	1	2.5	92.5	3	7.5	95.0
100-149	2	5.0	97.5	1	2.5	97.5
150-199	0	0	97.5	0	0	97.5
200-249	1	2.5	100.0	0	0	97.5
250-299	0	0	100.0	1	2.5	100.0
	40			40		

Table 3.4

Class Sizes of Big Name Villages in Duidui 1963-72

Class Size	1963 No.	%	Cumulative %	1965 No.	%	Cumulative %	1970 where comparable to 1963 and 1965 No.	%	Cumulative %
1-9	0	0	0	0	0	0	0	0	
10-24	2	14.3	14.3	0	0	0	3	25.0	25.0
25-49	2	14.3	28.6	0	0	0	2	16.7	41.7
50-74	2	14.3	42.9	1	12.5	12.5	3	25.0	66.7
75-99	3	21.4	64.3	0	0	12.5	1	8.3	75.0
100-149	4	28.6	92.9	5	62.5	75.0	1	8.3	83.3
150-199	1	7.1	100.0	2	25.0	100.0	2	16.7	100.0
200-249	0	0	100.0	0	0	100.0	0	0	0
	14			8			12		

Class Size	1970 where comparable to 63, 65, & 70 No.	%	Cumulative %	1970 All No.	%	Cumulative %	1972 De Jure compared to 63 & 65 No.	%	Cumulative %
0	0	0	0	0	0	0	0	0	0
1-9	1	5.0	5.0	4	16.0	16.0	0	0	0
10-24	5	25.0	30.0	6	24.0	40.0	0	0	0
25-49	5	25.0	55.0	5	20.0	60.0	3	25.0	25.0
50-74	5	25.0	80.0	6	24.0	84.0	2	16.7	41.7
75-99	1	5.0	85.0	1	4.0	88.0	1	8.3	50.0
100-149	1	5.0	90.0	1	4.0	92.0	3	25.0	75.0
150-199	2	10.0	100.0	2	8.0	100.0	1	8.3	83.3
200-249	0	0	100.0	0	0	100.0	1	8.3	91.6
250-299	0	0	100.0	0	0	100.0	1	8.3	99.9
	20			25			12		

Class Size	1972 De Facto compared to 1963 & 1965 No.	%	Cumulative %	1972 De Jure compared to 1963, 1965, & 1970 No.	%	Cumulative %	1972 De Facto compared to 1963, 1965, & 1970 No.	%	Cumulative %
0	0	0	0	1	5.0	5.0	0		0
1-9	0	0	0	1	5.0	10.0	1	5.0	5.0
10-24	1	8.3	8.3	3	15.0	25.0	5	25.0	30.0
25-49	4	33.3	41.6	4	20.0	45.0	6	30.0	60.0
50-74	1	8.3	49.9	4	20.0	65.0	2	10.0	70.0
75-99	2	16.7	66.6	1	5.0	70.0	2	10.0	80.0
100-149	1	8.3	74.9	3	15.0	85.0	1	5.0	85.0
150-199	2	16.7	91.6	1	5.0	90.0	2	10.0	95.0
200-249	1	8.3	99.9	1	5.0	95.0	1	5.0	100.0
250-299	0	0	99.9	1	5.0	100.0	0	0	100.0
	12			20			20		

Class Size	1972 De Jure All No.	%	Cumulative %	1972 De Facto All No.	%	Cumulative %
0	2	7.7	7.7	0	0	0
1-9	2	7.7	15.4	3	11.5	11.5
10-24	3	11.5	26.9	5	19.2	30.7
25-49	7	26.9	53.8	8	30.8	61.5
50-74	4	15.4	69.2	3	11.5	73.0
75-99	2	7.7	76.9	3	11.5	84.5
100-149	3	11.5	88.4	1	3.8	88.3
150-199	1	3.8	92.2	2	7.7	96.0
200-249	1	3.8	96.0	1	3.8	99.8
250-299	1	3.8	99.8	0	0	0
	26			26		

Table 3.5

Class Sizes of Big Name Villages in Vatukulau 1963 - 1972

	1969			1965			Compared 63 & 65		
1-9	0	0	0	0	0	0	1	7.1	7.1
10-24	1	6.3	6.3	2	16.7	16.7	3	21.4	28.5
25-49	8	50.0	56.3	3	25.0	41.7	3	21.4	49.9
50-74	4	25.0	81.3	1	8.3	50.0	4	28.6	78.5
75-99	0	0	81.3	2	16.7	66.7	2	14.3	92.8
100-149	3	18.7	100.0	1	8.3	75.0	1	7.1	99.9
150-199	0	0	100.0	2	16.7	91.7	0		99.9
200-249	0	0	100.0	1	8.3	100.0	0		99.9
	16			12			14		

	1970 compared with 63, 65, & 70			All 1970			1972 De Jure compared with 63 & 65		
1-9	6	22.2	22.2	7	21.2	21.2	0	0	0
10-24	5	18.5	40.7	6	18.2	39.4	3	27.3	27.3
25-49	8	29.6	70.3	10	30.3	69.7	2	18.2	45.5
50-74	4	14.8	85.1	5	15.2	84.9	3	27.3	72.8
75-99	3	11.1	96.2	4	12.1	97.0	1	9.1	81.9
100-149	1	3.7	99.9	1	3.0	100.0	1	9.1	91.0
150-199	0	0	99.9	0	0	100.0	1	9.1	99.9
200-249	0	0	99.9	0	0	100.0	0	0	
	27			33			11		

	1972 De Facto Compared 63 & 65			1972 De Jure Compared to 63, 65, & 70			1972 De Facto Compared to 63, 65 & 70		
1-9	0	0	0	3	12.5	12.5	4	16.7	16.7
10-24	1	9.1	9.1	7	29.2	41.7	9	37.5	54.2
25-49	4	36.4	45.5	7	29.2	70.9	4	16.7	70.9
50-74	0	0	45.5	3	83.4	4	4	16.7	87.6
75-99	3	27.3	72.8	2	8.3	91.7	2	8.3	95.9
100-149	2	18.3	91.0	1	4.2	95.9	1	4.2	100.1
150-199	1	9.1	100.1	1	4.2	100.1	0	0	100.1
	11			24			24		

	1972 De Jure All			1972 De Facto All		
1-9	7	19.4	19.4	6	16.7	16.7
10-24	9	25.0	44.4	13	36.1	52.8
25-49	9	25.0	69.4	6	16.7	69.5
50-74	5	13.9	83.3	7	19.4	88.9
75-99	3	8.3	91.6	2	5.6	94.5
100-149	2	5.6	97.2	2	5.6	100.1
150-199	1	2.8	100.0	0	0	100.1
	36			36		

Table 3.6

Class Sizes of Big Name Villages in Talise 1963 - 1972

	1963			1965			1970 Compared to 63 & 65		
1-9	2	12.5	12.5	0	0	0	2	18.2	18.2
10-24	2	12.5	25.0	0	0	0	3	27.3	45.5
25-49	7	43.7	68.7	5	33.5	33.3	5	45.5	91.0
50-74	2	12.5	81.2	8	53.3	86.6	0	0	91.0
75-99	2	12.5	93.7	1	6.7	93.3	0	0	91.0
100-149	0	0	93.7	0		93.3	0	0	91.0
150-199	1	6.3	100.0	1	6.7	100.0	1	9.1	100.1
	16			15			11		

	1970 compared to 63, 65 & 72			All 1970			1972 De Jure compared to 1963 & 1965		
1-9	3	23.1	23.1	6	31.6	31.6	0	0	0
10-24	3	23.1	46.2	5	26.3	57.9	4	33.3	33.3
25-49	5	38.5	84.7	6	31.6	89.5	3	25.0	58.3
50-74	1	7.7	92.4	1	5.3	94.8	2	16.7	75.0
75-99	0	0	92.4	0	0	94.8	1	8.3	83.3
100-149	0	0	92.4	0	0	94.8	1	8.3	91.6
150-199	1	7.7	100.1	1	5.3	100.1	1	8.3	99.9
	13			19			12		

	1972 De Facto compared to 63 & 65			1972 De Jure compared to 1963, 1965 & 1970			1972 De Facto compared to 1963, 1965 & 1970		
1-9	1	8.3	8.3	1	7.1	7.1	2	14.3	14.3
10-24	4	33.3	41.6	4	28.6	35.7	4	28.6	42.9
25-49	3	25.0	66.6	3	21.4	57.1	3	21.4	64.3
50-74	3	25.0	91.6	3	21.4	78.5	4	28.6	92.9
75-99	0	0	91.6	1	7.1	85.6	0	0	92.9
100-149	1	8.3	99.9	1	8.1	92.7	1	7.1	100.0
159-199	0	0	99.9	1	7.1	99.8	0	0	100.0
	12			14			14		

	1972 De Jure			1972 De Facto		
1-9	6	23.1	23.1	7	26.9	26.9
10-24	9	34.6	57.7	10	38.5	65.4
25-49	5	19.2	76.9	4	15.4	80.4
40-74	3	11.5	88.4	4	15.4	96.2
75-99	1	3.8	92.2	0	0	96.2
100-149	1	3.8	96.0	1	3.8	100.0
150-199	1	3.8	99.8	0	0	100.0
	26			26		

Table 3.7

Class Sizes of Big Name Villages in Avu Avu 1963 - 1972

1963 Census missing
1965 Partial census

	1970 census compared with 63, 65, & 72			1970 census all			1972 De Jure compared 63, 65 & 70		
1-9	3	27.3	27.3	7	31.8	31.8	0	0	0
10-24	2	19.2	46.5	8	36.4	68.2	3	30.0	30.0
25-49	3	27.3	73.8	4	18.2	86.4	2	20.0	50.0
50-74	1	9.1	82.9	1	4.5	90.9	3	30.0	80.0
75-99	0	0	82.9	0	0	90.9	0	0	80.0
100-149	1	9.1	92.0	1	0	95.4	0	0	80.0
150-199	0	0	92.0	0	0	95.4	1	10.0	90.0
200-249	0	0	92.0	0	0	95.4	0	0	90.0
250-299	1	9.1	100.1	1	4.5	99.9	0	0	90.0
300-349	0	0	100.1	0	0	99.9	1	10.0	100.0
	12			22			10		

	1972 De Facto compared with 63, 65 & 70			All 1972 De Jure			All 1972 De Facto		
1-9	3	30.0	30.0	7	38.9	38.9	7	38.9	38.9
10-24	1	10.0	40.0	5	27.8	66.7	4	22.2	61.1
25-49	4	40.0	80.0	3	16.7	84.4	5	27.8	88.9
50-74	0	0	80.0	1	5.6	89.0	0	0	88.9
75-99	0	0	80.0	0	0	89.0	0	0	88.9
100-149	0	0	80.0	1	5.6	94.6	0	0	88.9
150-199	1	10.0	90.0	0	0	94.6	1	5.6	94.5
200-249	0	0	90.0	0	0	94.6	0	0	94.5
250-299	1	10.0	100.0	0	0	94.6	1	5.6	100.1
300-349	0	0	100.0	1	5.6	100.2	0	0	100.1
	10			18			18		

Table 3.8
Class Size of Big Name Villages in Moli 1963 - 1972

	1963			1965			1970 compared to 63 & 65		
1-9	1	7.1	7.1	0	0	0	1	7.7	7.7
10-24	5	35.7	42.8	1	10.0	10.0	4	30.8	38.5
25-49	1	7.1	49.9	1	10.0	20.0	2	15.4	53.9
50-74	3	21.4	71.3	2	20.0	40.0	1	7.7	61.6
75-99	2	14.3	85.6	3	30.0	70.0	2	15.4	92.4
100-149	2	14.3	99.9	2	20.0	90.0	2	15.4	92.4
150-199	0	0	99.9	1	10.0	100.0	0	0	92.4
400-449	0	0	99.9	0	0	100.0	1	7.7	100.1
	14			10			13		

	1970 compared to 63, 65 & 70			1970 Total			1972 compared to 63 & 65 De Jure		
1-9	1	5.6	5.6	9	31.0	31.0	1	7.7	7.7
10-24	9	50.0	50.0	10	34.5	65.5	2	15.4	23.1
25-49	2	11.1	66.7	4	13.8	79.3	2	15.4	38.5
50-74	1	5.6	72.3	1	3.4	82.7	3	23.1	61.6
75-99	2	11.1	83.4	2	6.9	89.6	2	15.4	77.0
100-149	2	11.1	94.5	2	6.9	96.5	1	7.7	84.7
150-199	0	0	94.5	0	0	96.5	2	15.4	100.1
400-449	1	5.6	100.1	1	3.4	99.9	0	0	100.1
	18			29			13		

	1972 De Facto compared to 1963 & 1965			1972 De Jure compared to 63, 65 & 70			1972 De Facto compared to 63, 65 & 70		
1-9	1	7.7	7.7	1	5.6	5.6	1	5.6	5.6
10-24	2	15.4	23.1	6	33.3	38.9	6	33.3	38.9
25-49	3	23.1	46.2	3	16.7	55.6	4	22.2	61.1
50-74	1	7.7	53.9	3	16.7	72.3	1	5.6	66.7
75-99	3	23.1	77.0	2	11.1	83.4	3	16.7	83.4
100-149	0	0	77.0	1	5.6	89.0	0	0	83.4
150-199	2	15.4	92.4	2	11.1	100.1	2	11.1	94.5
450-499	1	7.7	100.0	0	0	100.1	1	5.6	100.1
	13			18			18		

	1972 De Jure All			1972 De Facto All		
1-9	6	23.1	23.1	5	19.2	19.2
10-24	8	30.8	53.9	9	34.6	53.8
25-49	2	7.7	61.6	3	11.5	65.3
50-74	4	15.4	77.0	2	7.7	73.0
75-99	3	11.5	88.5	4	15.4	88.4
100-149	1	3.8	92.3	0	0	88.4
150-199	2	7.7	100.0	2	7.7	96.1
450-499	0	0	100.0	1	3.8	99.9
	26			26		

Table 3.9
Class Sizes of Big Name Villages in Tetekanji 1963 - 1972

	1963			1965			1970 compared to 63 & 65		
1-9	0	0	0	0	0	0	0	0	0
10-24	0	0	0	0	0	0	2	33.3	33.3
25-49	1	16.7	16.7	1	25.0	25.0	2	33.3	66.6
50-74	3	50.0	66.7	2	50.0	75.0	2	33.3	99.9
75-99	1	16.7	83.4	0	0	75.0	0	0	99.9
100-149	1	16.7	100.1	1	25.0	100.0	0	0	99.9
	6			4			6		

	1970 compared to 63, 65 & 70			1970 All			1972 De Jure compared to 63 & 65		
1-9	1	12.5	12.5	2	16.7	16.7	0	0	0
10-24	2	25.0	37.5	5	41.7	58.4	2	33.3	33.3
25-49	3	37.5	75.0	3	25.0	83.4	1	16.7	50.0
50-74	2	25.0	100.0	2	16.7	100.1	1	16.7	66.7
75-99	0	0	100.0	0	0	100.1	1	16.7	83.4
100-149	0	0	100.0	0	0	100.1	1	16.7	100.1
	8			12			6		

	1972 De Facto compared to 63 & 65			1972 De Jure compared to 63, 65 & 70			1972 De Facto compared to 63, 65 & 70		
0	0	0	0	1	12.5	12.5	0	0	0
1-9	0	0	0	0	0	12.5	1	12.5	12.5
10-24	2	33.3	33.3	2	25.0	37.5	2	25.0	37.5
25-49	1	16.7	50.0	2	25.0	62.5	2	25.0	62.5
50-74	2	16.7	66.7	1	12.5	75.0	2	12.5	75.0
75-99	2	33.3	100.0	1	12.5	87.5	2	25.0	100.0
100-149	0	0	100.0	1	12.5	100.0	0	0	100.0
	6			8			8		

	1972 De Jure All			1972 De Facto All		
0	1	10.0	10.0	0	0	0
1-9	1	10.0	20.0	2	20.0	20.0
10-24	2	20.0	40.0	2	20.0	40.0
25-49	3	30.0	70.0	3	30.0	70.0
50-74	1	10.0	80.0	1	10.0	100.0
75-99	1	10.0	90.0	2	20.0	100.0
100-149	1	10.0	100.0	0	0	100.0
	10			10		

Table 3.10
Class Sizes of Big Name Villages in Marau 1963 - 1972

	1963			1965			1970 compared to 63 & 65		
1-9	2	13.3	13.3	1	9.1	9.1	1	6.3	6.3
10-24	7	46.7	60.0	5	45.5	54.6	8	50.0	56.3
25-49	6	40.0	100.0	4	36.4	91.0	5	31.3	87.6
50-74	0	0	100.0	1	9.1	100.1	2	12.5	100.1
	15			11			16		

	1970 compared to 63, 65 & 70			1970 All			1972 De Jure compared to 63 & 65		
1-9	4	16.0	16.0	5	17.9	17.9	0	0	0
10-24	13	52.0	68.0	15	53.6	71.5	6	46.2	46.2
25-49	6	24.0	92.0	6	21.4	92.9	6	46.2	92.4
50-74	2	8.0	100.0	2	7.1	100.0	0	0	92.4
75-99	0	0	100.0	0	0	100.0	1	7.7	100.1
	25			28			13		

	1972 De Facto compared to 63 & 65			1972 De Jure compared to 63, 65 & 70			1972 De Facto compared to 63, 65 & 70		
1-9	0	0	0	4	18.2	18.2	2	9.1	9.1
10-24	9	69.2	69.2	10	45.5	63.7	14	63.6	72.7
25-49	3	23.1	92.3	7	31.8	95.5	5	22.7	95.4
50-74	1	7.7	100.0	0	0	95.5	1	4.5	99.9
75-99	0	0	100.0	1	4.5	100.0	0	0	99.9
	13			22			22		

	1972 All De Jure			1972 All De Facto		
0	2	6.9	6.9	0	0	0
1-9	6	20.7	27.6	5	17.2	17.2
10-24	13	44.8	72.4	19	65.5	82.7
25-49	7	24.1	96.5	4	13.8	96.5
50-74	0	0	96.5	1	2.4	99.9
75-99	1	3.4	99.9	0	0	99.9
	29			29		

Table 3.11

COMPARISON OF CUMULATIVE CLASS SIZES, 1963-72 BY CENSUS DIVISIONS

a. Cumulative Class Sizes 1963

	W.B.	Dui	Vat	Tal	Avu	Moli	Tet	Marao
1-9	6.7	0	0	12.5	missing	7.1	0	13.3
10-24	33.4	14.3	6.3	25.0		42.8	0	60.0
25-49	46.7	28.6	56.3	68.7		49.9	16.7	100.0
50-74	73.4	42.9	81.3	81.2		71.3	66.7	
75-99	93.4	64.3	81.3	93.7		85.6	83.4	
100-149	100.1	92.9	100.0	93.7		99.9	100.1	
150-199		100.0		100.0				
Total Number	15	14	16	16		14	6	15

b. Cumulative Class Sizes 1965

	W.B.	Dui	Vat	Tal	Avu	Moli	Tet	Marao
1-9	0	0	0	0	incomplete	0	0	9.1
10-24	36.4	0	16.7	0		10.0	0	54.6
25-49	36.4	0	41.7	33.3		20.0	25.0	91.0
50-74	45.5	12.5	50.0	86.6		40.0	75.0	100.1
75-99	81.9	12.5	66.7	93.3		70.0	75.0	
100-149	81.9	75.0	75.0	93.3		90.0	75.0	
150-199	81.9	100.0	91.7	100.0		100.0	100.0	
200-249	100.0		100.0					
Total Number	11	11	12	15		10	4	

c. Cumulative Class Sizes 1970 Where Comparable to 63 & 65

	W.B.	Dui	Vat	Tal	Avu	Moli	Tet	Marao
1-9	23.1	0	7.1	18.2	incomplete	7.7	.0	6.3
10-24	38.5	25.0	28.5	45.5		38.5	33.3	56.3
25-49	61.6	41.7	49.9	91.0		53.9	66.6	87.6
50-74	84.7	66.7	78.5	91.0		61.6	99.9	100.1
75-99	84.7	75.0	92.8	91.0		77.0		
100-149	92.4	83.3	99.9	91.0		92.4		
150-199	92.4	100.0		100.1		92.4		
250-299	100.1					100.1		
Total Number	13	12	14	11		13	6	16

d. Cumulative Class Sizes 1970 Where Comparable to 1963, 1965 & 1970

	W.B	Due	Vat	Tal	Avu	Moli	Tet	Marao
1-9	40.0	5.0	22.2	23.1	30.0	5.6	12.5	16.0
10-24	60.0	30.0	40.7	46.2	40.0	55.6	37.5	68.0
25-49	76.0	55.0	70.3	84.7	80.0	66.7	75.0	92.0
50-74	92.0	80.0	85.1	92.4	80.0	72.3	100.0	100.0
75-99	92.0	85.0	96.2	92.4	80.0	83.4		
100-149	96.0	90.0	99.9	92.4	80.0	94.5		
150-199	96.0	100.0		100.1	90.0	94.5		
200-249	96.0				90.0	94.5		
250-299	100.0				100.0	94.5		
450-499						100.1		
Total Number	25	20	27		10	18	8	25

e. Cumulative Class Sizes 1970 (Total)

	W.B	Dui	Vat	Tal	Avu	Moli	Tet	Marao
1-9	34.3	16.0	21.2	31.6	31.8	31.0*	16.7	17.9
10-24	65.7	40.0	39.4	57.9	68.2	65.5	58.4	71.5
25-49	80.0	60.0	69.7	89.5	86.4	79.3	83.4	92.9
50-74	94.3	84.0	84.9	94.8	90.9	82.7	100.1	100.0
75-99	94.3	88.0	97.0	94.8	90.9	89.6		
100-149	97.2	92.0	100.0	94.8	95.4	96.5		
150-199	97.2	100.0		100.1	95.4	96.5		
200-249	97.2				95.4	96.5		
250-299	100.1				99.9	96.5		
450-499						99.9		
Total Number	35	25	33	19	22	29	12	28

f. Cumulative Class Sizes 1972 De Jure Compared With 1963 & 1965

	W.B	Dui	Vat	Tal	Avu	Moli	Tet	Marao
1-9	7.7	0	0	0	63 & 65 incomplete	7.7	0	0
10-24	23.1	0	27.3	33.3		23.1	12.5	46.2
25-49	60.6	25.0	45.5	58.3		38.5	37.5	92.4
50-74	68.3	41.7	72.8	75.0		6.16	62.5	92.4
75-99	84.7	50.0	81.9	83.3		77.0	75.0	100.1
100-149	92.4	75.0	91.0	91.6		84.7	100.0	
150-199	92.4	83.3	99.9	99.9		100.1		
200-249	100.1	91.6						
250-299		99.9						
Total Number	13	12	11	12		13	8	13

g. Cumulative Class Sizes 1972 De Facto Compared with 63 & 65

	W.B.	Dui	Vat	Tal	Avu	Moli	Tet	Marao
0	7.7	0	0	0	63 & 65 incomplete		0	0
1-9	15.4	0	0	8.3		7.7	0	0
10-24	38.5	8.3	9.1	41.6		23.1	33.3	69.2
25-49	61.6	41.6	45.5	66.6		46.2	50.0	92.3
50-74	77.0	49.9	45.5	91.6		53.9	66.7	100.0
75-99	84.7	66.6	72.8	91.6		77.0	100.0	
100-149	92.4	74.9	91.0	99.9		77.0		
150-199	92.4	91.6	100.1			92.4		
200-249	92.4	99.9				92.4		
250-299	100.1					92.4		
450-499						100.1		
Total Number	13	12	11	12		13	6	13

h. Cumulative Class Sizes 1972 De Jure Compared With 63, 65 & 70

	W.B.	Dui	Vat	Tal	Avu	Moli	Tet	Marao
0	0	5.0	0	0	0	0	12.5	0
1-9	24.0	10.0	12.5	7.1	0	5.6	12.5	18.2
10-24	52.0	25.0	41.7	35.7	30.0	38.9	37.5	63.7
25-49	80.0	45.0	70.9	57.1	50.0	55.6	62.5	95.5
50-74	84.0	65.0	83.4	78.5	80.0	72.3	75.0	95.5
75-99	92.0	70.0	91.7	85.6	80.0	83.4	87.5	100.0
100-149	96.0	85.0	95.9	92.7	80.0	89.0	100.0	
150-199	96.0	90.0	100.1	99.8	90.0	100.1		
200-249	100.0	95.0			90.0			
250-299		100.0			990.0			
300-349					100.0			
Total Number	13	20	24	14	10	18	8	22

i. Cumulative Class Sizes 1972 De Facto Compared With 1963, 1965 & 1970

	W.B.	Dui	Vat	Tal	Avu	Moli	Tet	Marao
0	8.0	0	0	0	0	0	0	0
1-9	36.0	5.0	16.7	14.3	30.0	5.6	12.5	9.1
10-24	56.0	30.0	54.2	42.9	40.0	38.9	37.5	72.7
25-49	76.0	60.0	70.9	64.3	80.0	61.1	62.5	95.4
50-74	84.0	70.0	87.6	92.9	80.0	66.7	75.0	99.9
75-99	92.0	80.0	95.9	92.9	80.0	83.4	100.0	
100-149	96.0	85.0	100.1	100.1	80.0	83.4		
150-199	96.0	95.0			90.0	94.5		
200-249	96.0	100.0			90.0	100.1		
250-299	100.0				100.0			
450-499								
Total Number	25	20	24	14	10	18	8	22

J. Cumulative Class Sizes 1972 De Jure All

	W.B.	Dui	Vat	Tal	Avu	Moli	Tet	Marao
0	0	7.7	0	0	0	0	10.0	6.9
1-9	25.0	15.4	19.4	23.1	38.9	23.1	20.0	27.6
10-24	62.5	26.9	44.4	57.7	66.7	53.9	40.0	72.4
25-49	85.0	53.8	69.4	76.9	84.4	61.6	70.0	96.5
50-74	90.0	69.2	83.3	88.4	89.0	77.0	80.0	96.5
75-99	92.5	76.9	91.6	92.2	89.0	88.5	90.0	99.9
100-149	97.5	88.4	97.2	96.0	94.6	92.3	100.0	
150-199	97.5	92.2	100.0	99.8	94.6	100.0		
200-249	100.0	96.0			94.6			
250-299		99.8			94.6			
300-349					100.2			
Total Number	40	26	36	26	18	26	10	29
Median	20.0	46.5	30.6	21.7	16.0	23.1	33.3	17.8
Mean	32.5	68.2	42.5	34.3	41.4	45.7	43.3	19.7

k. Cumulative Class Sizes 1972 De Facto All

	W.B.	Diu	Vat	Tal	Avu	Moli	Tet	Marao
0	5.0	0	0	0	0	0	0	0
1-9	37.5	11.5	16.7	26.9	38.9	19.2	20.0	17.2
10-24	62.5	30.7	52.8	65.4	61.1	53.8	40.0	82.7
25-49	87.5	61.5	69.5	80.8	88.9	65.3	70.0	96.5
50-74	87.5	73.0	88.9	96.2	88.9	73.0	80.0	99.9
75-99	95.0	84.5	94.5	96.2	88.9	88.4	100.0	
100-149	97.5	88.3	100.1	100.0	88.9	88.4		
150-199	97.5	96.0			94.5	96.1		
200-249	97.5	99.8			94.5	96.1		
250-299	100.0				100.1	96.1		
450-499						99.9		
Total Number	40	26	36	26	18	26	10	29
Median	17.5	41.7	23.8	19.0	17.5	23.4	33.3	17.5
Mean	32.0	56.5	35.7	28.3	40.4	59.5	38.5	19.3

Table 3.12

Mean and Median Sizes of Villages of the Weather Coast of Guadalcanal 1963 - 1972

1963		1965		1970 where comparable to 1963 & 1965	
Median	43.5 persons	Median	62.4	Median	35.4
Mean	48.3 persons	Mean	77.1	Mean	49.8

1970 where comparable to 1963, 1965 & 1972		1970 All		1972 De Jure where comparable to 1963 & 1965	
Median	25.4	Median	21.3	Median	46.4
Mean	43.6	Mean	36.0	Mean	64.9

1972 De Facto where comparable to 63 & 65		1970 All		1972 De Facto where comparable to 63, 65, & 70	
Median	40.2	Median	30.9	Median	26.2
Mean	62.7	Mean	54.2	Mean	49.7

1972 De Jure All		1972 De Facto All	
Median	23.0	Median	21.6
Mean	39.9	Mean	37.9

Both mean and median size were used as measures of central tendency for weather coast villages. (Table 3.12). The median expresses what the size of the typical village would be, whereas the mean comes closer to expressing what size village the typical resident lives in. In developed countries, there is a tremendous gap between mean and median size because most persons in developed countries live in a very small proportion of the towns.

The lack of difference between the mean and median, especially in 1963, is noteworthy. The lower mean and median in the category "1970 where comparable to 1963 and 1965" may seem surprising as it would indicate villages were actually shrinking, but the 1970 count was a de facto one and on the average there are many more residents absent than visitors present in Weather Coast villages. The 1970 census may have contained small name villages not recognized as part of the 1963 and 1965 count which was listed by big name villages. The 1965 census, to a great extent, and the 1963 census, to a much lesser extent, also combined the populations of tiny big name villages with the closest large village. However, it does not appear that the average size of the villages was increasing during this period.

The figures for the category "1970 where comparable to 1963, 1965 & 1972" all reflect the thorough count of the small villages in the 1970 and 1972 censuses. The averages are again probably somewhat understated because a few small name villages were incorrectly counted as big name villages. In view of this, their close comparabilities to the categories "1972 de facto where comparable to 63, 65 and 70" and "1972 de facto all" are remarkable. The differences that exist can be attributed to the fact that all small name villages could correctly be assigned to big name villages in 1972.

The category "1972 de jure where comparable to 1963 and 1965" has a mean and median close to the 1963 figures. At first glance, the slightly larger figures for 1972 indicate some overall village size growth, especially as a few small villages were combined with larger villages in 1963. However, the very large village of Longgu was left out of the 1963 census and some 1963 villages counted as big name villages were probably small name villages, although they were not assigned to other big name villages in the absence of definite proof, such as the listing of the village as a small name village in the 1972 census. An example is the village of Kolombolo, adjacent to Sughu, which had 114 persons in 1963 whereas Sughu had only 46 persons listed. Kolombolo was not listed in any subsequent census, although the 1965 census enumerated 244 in Sughu. Therefore, it is doubtful whether village size was actually decreasing. The small de jure mean and median of all 1972 villages indicate that the average Weather Coast village is very small. The 1963 and 1965 means and medians probably would have been similar in the 1963 and 1965 censuses had they been conducted in the same manner as the 1972 census.

One problem of comparing village sizes is that Weather Coast big name villages do not correspond to villages in the United States and Europe. Rather than being one compact entity, the big name villages may include two or more non-contiguous settlements. Examples are Duidui, Malagheti, and Longgu, which are clusters held together by a leader. If the leader dies or loses favor, former small name villages may disavow their connections to the former big name entity and become self-sustaining entities in them-selves (Hogbin, 1964). Thus, using small names listed in the 1972 census as a basis for recreating 1963, 1965 and 1970 big name villages, may mask villages coming together to form larger big name villages or splitting apart to become smaller big name villages during this period. However, if the above procedures were not used there would be no comparability between the censuses.

In view of the lack of evidence to indicate overall increases in average village size between 1963 and 1972, it is of interest to note that the government and missions have encouraged the con-centration of population into large settlements so that they can be more easily administered. It may be that this policy has created larger villages in the past, but that further agglomeration cannot be accommodated within the prevailing social and economic system.

Table 3.13

Mean and Median Sizes of Weather Coast Villages by Census Division

De Jure 1972

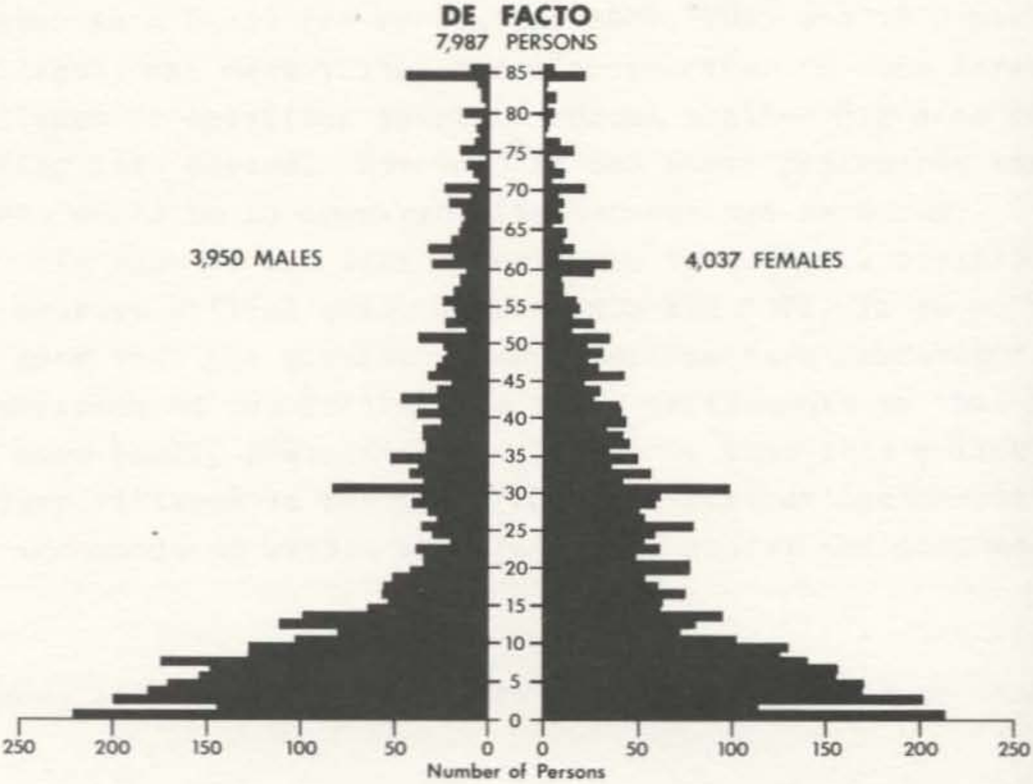
	W. B.	Dui	Vat	Tal	Avu	Moli	Tet
Median	20.0	46.5	30.6	21.7	16.0	23.1	33.3
Mean	32.5	68.2	42.5	34.3	41.4	45.7	43.3

De Facto 1972

	W. B.	Dui	Vat	Tal	Avu	Moli	Tet
Median	17.5	41.7	23.8	19.0	17.5	23.4	33.3
Mean	32.0	56.5	35.7	28.3	40.4	59.5	38.5

A comparison of the medians and means of the de jure villages confirms that average village size is smallest in Marau and largest in Duidui. The extremely close correspondence between the mean and median in Marau shows that most villages do contain approximately 20 persons, and the absence of large towns. The extremely low median in Avu Avu (the lowest of all districts) and the high mean (second highest of all districts) reveal the bi-polar nature of

WEATHER COAST POPULATION BY SEX AND SINGLE YEARS OF AGE



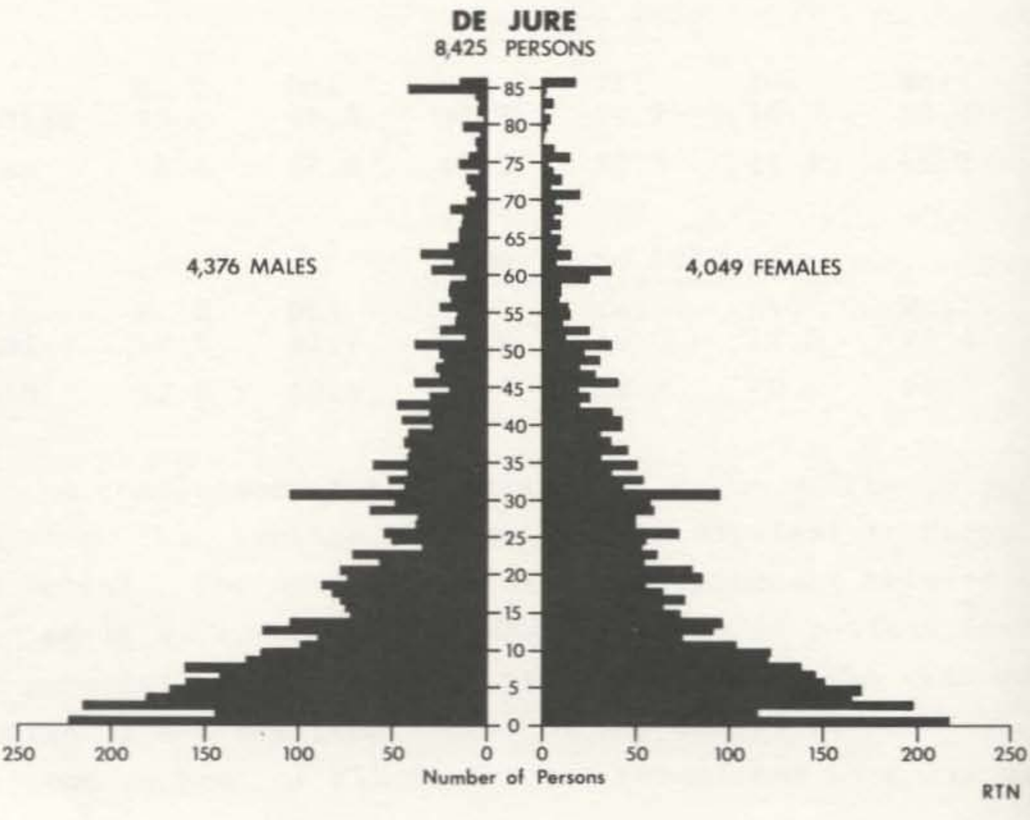


Figure 3.5

Avu villages. There are many tiny villages in the Duidui Bush, yet most of Avu Avu's population lives in the large villages of Haimarao and Longgu. The relatively large figures for Tetekanji result from few small settlements and a number of moderate size settlements, in the 25-99 range. This suggests that bush settlements are not necessarily always small. The difference between the mean and median in Moli results from several large villages and a large number of small villages.

The differences between the means and medians of the de jure and de facto populations of Duidui, Vatukulau, and Talise result from the heavy labor out-migration from those areas. The de facto and de jure means and medians are similar in Avu Avu, Wanderer Bay and Marau as visitors approximately equal residents absent in those areas. However, the de jure and de facto medians are almost equal whereas the de facto mean is much larger than the de jure mean in Moli. Indeed, the Moli de facto mean is even larger than that of Duidui. The average village in Moli is not receiving more visitors than temporarily losing residents. Virtually, the entire difference between the de facto and de jure population of Moli is due to pilgrimage of persons to Makaruka, the home of the Moro movement. In this case, the use of either the mean or the median measure alone would give a very incomplete picture of actual trends.

Age Structure of Weather Coast Population

De Jure Single-Age Pyramid (Total Population)

The age pyramids (Fig. 3.5) have "saw-tooth" characteristics noted by Groenewegen in analyzing the Melanesian age-pyramid from the 1970 census of the Solomon Islands (Groenewegen 1970). He noted a marked preference for the digit "O", mainly at the expense of the digit "1", and suspected that the preference for the digit zero was accentuated by the fact that persons often selected dates of birth that ended in the digit zero and the census was taken in 1970. Therefore, one would expect for the 1972 census a smaller age heaping in the digit "O" and an age heaping on the digit 2. Groenewegen (1970) pointed out that age heaping on the digit 0 was most noticeable for ages 30 and above, and that underenumeration of the digit 1 was particularly severe in the case of infants.

Indeed, a cursory glance at the 1972 age pyramid indicates a preference for both the digits 0 and 2, with that for the digit zero even more marked, as 13.6% of Melanesians age 10-79 picked digit 0 in 1970 compared with 14.8% in the 1972 sample. The corresponding preferences for the digit 2 were 9.4% and 11.3%. Otherwise the selection of digits for both years is quite similar, with the exception that the digits 8 and 9 were overrepresented in 1970 (11.8 and 10.7 per cent respectively), and under represented in 1972 (9.5 and 9.9 percent respectively). As a result of these changes, 47.8% of the 1972 Weather Coast population picked the digits 5 to 9 compared to 50.9% in the 1970 Protectorate census.

The preference for the digit 0 is especially noticeable at age 30. This cohort would have been born in 1942 and should have been seriously depleted by the diseases and food shortages that occurred during the second World War. (Table 3.14) Thus the age misstatement is even more serious than is indicated by a glance at the age pyramid. The overenumeration of the digit 2 is noticeable in all age groups up to age 70. The underenumeration of the digit 1 is characteristic of all age groups, and particularly noticeable for infants 1 year of age, many of whom were obviously enumerated as being age 0 or 2.

<u>De Facto</u> Single-Year Age Pyramid (Total Population)

The <u>de facto</u> age pyramid (Fig. 3.5) likewise shows the same age heaping characteristics as the <u>de jure</u> pyramid. The percentage of children is higher in the <u>de facto</u> population as it is mostly adolescent and young adult males that leave the Weather Coast for schooling or temporary employment. As a result, the percentage of males 15-29 is smaller in the <u>de facto</u> population than in the de jure population.

De Jure Five-Year Age Pyramid (Total Population)

The age pyramid (Fig. 3.6) is characteristic of underdeveloped countries with a high birth rate and declining mortality; the base is wide and the pyramid narrows rapidly. Very noticeable is the rapid narrowing from the age group 5-9 to the age group 20-24. The age group under 10 undoubtedly has been the chief beneficiary

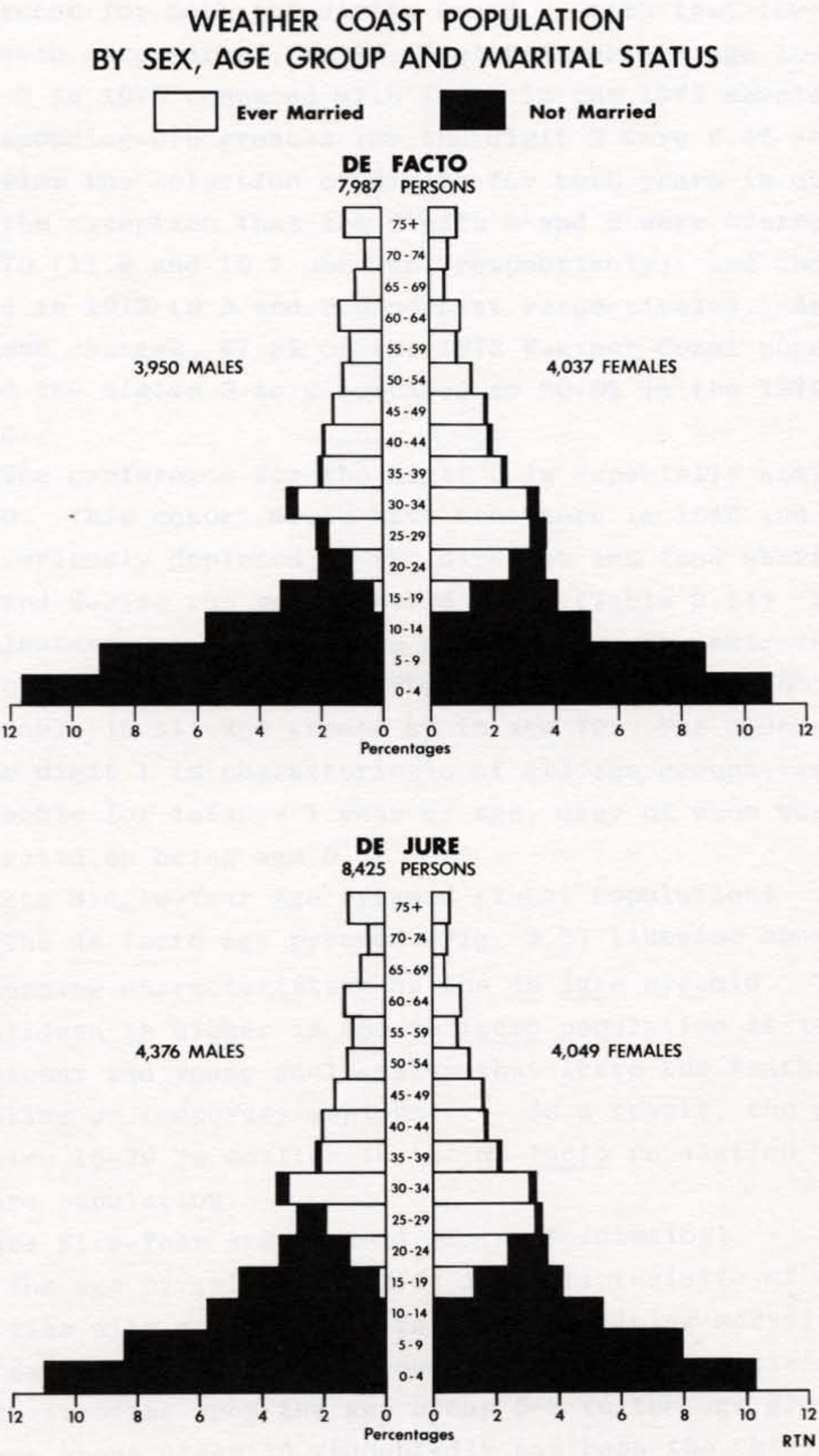

WEATHER COAST POPULATION
BY SEX, AGE GROUP AND MARITAL STATUS
Ever Married
Not Married
DE FACTO
7,987 PERSONS
3,950 MALES
4,037 FEMALES
75+
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
5-9
0-4
12 10 8 6 4 2 0 0 2 4 6 8 10 12
Percentages
DE JURE
8,425 PERSONS
4,376 MALES
4,049 FEMALES
75+
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
5-9
0-4
12 10 8 6 4 2 0 0 2 4 6 8 10 12
Percentages
RTN

Figure 3.6

Table 3.14

Major Health Events on Guadalcanal Weather Coast

Year/s	Event	Approximate Age of Persons Born in Year of Event
1962-64	Sprayings began for Malaria	8-10
1958	Yaws Eradication Campaign	14
1947	Outbreak of whooping cough Wrightson reports mortality among infants and children high in Talise	25
1942-44	Second World War: very heavy mortality from sickness--1941 & 1944 censuses indicate about 15% population decline on Weather Coast	28-30
1936-37	Severe 'flu epidemic--most severe on West and North coasts of Guadalcanal	35-36
1931	'Flu epidemic: not as serious as whooping cough epidemic the year before	41
1930	Very severe whooping cough epidemic "carried off young and old"	42

of the malaria spraying that began in 1962. The pyramid indicates a rapid decline in infant mortality in recent years. The temporary widening of the pyramid in the age group 30-34 may be attributed to age misstatement. This group and, to a lesser extent , the 25-29 age group, should have been decimated by the effects of World War II.

The numerically larger number of males in all age groups, except the age groups 20-24, and 25-29, is noteworthy as in most countries a majority of the infants are males, but females predominate in the older age groups because of lower mortality.

However, the dominance of males actually becomes more marked in the older age groups, which is not a result of age misreporting, as pre-World War II head counts indicated a large excess of males over 16. This is puzzling, as males are generally assumed to be more vulnerable than females to epidemics. Suggested reasons are that many women used to die in childbirth; that perhaps male children received more care than female children and were less likely to succumb to a combination of poor nutrition and disease; and that males throughout life tended to be better nourished (and perhaps less overworked) than women. Undoubtedly, the reasons for this phenomenon would reveal much about Weather Coast culture.

Obviously, the deficiency of males in the 20-29 age group merits comment, since only a small portion of the deficiency appears able to be explained as a result of age misreporting, and there is no reason to believe the deficiency due to excess mortality among males born between 1943 and 1952. The most reasonable explanation is that many males born on the Weather Coast during this period were not counted, either because they migrated permanently, or because they were away temporarily and there were no families to report them, or the families neglected to mention them to the census enumerators. If, as seems likely, most of the deficiency is due to males temporarily away not being reported, the de jure population may be underenumerated by as many as a hundred persons from this factor alone.

The larger than expected 60-64 year age group probably results from age misreporting, although that cannot be asserted as a fact since almost nothing is known about health conditions on Guadalcanal before 1920.

<u>De</u> <u>Facto</u> Five-Year Age Pyramid (Total Population)

The most notable feature of the <u>de</u> <u>facto</u> age pyramid (Fig. 3.8) is the deficiency of males in the age groups 15-40, which is especially marked in the age groups 20-29. This is no surprise as most persons temporarily absent from the Weather Coast are males in their most productive working years (15-29). As a result, the <u>de</u> <u>facto</u> percentages are higher for children, women, and men above age 50.

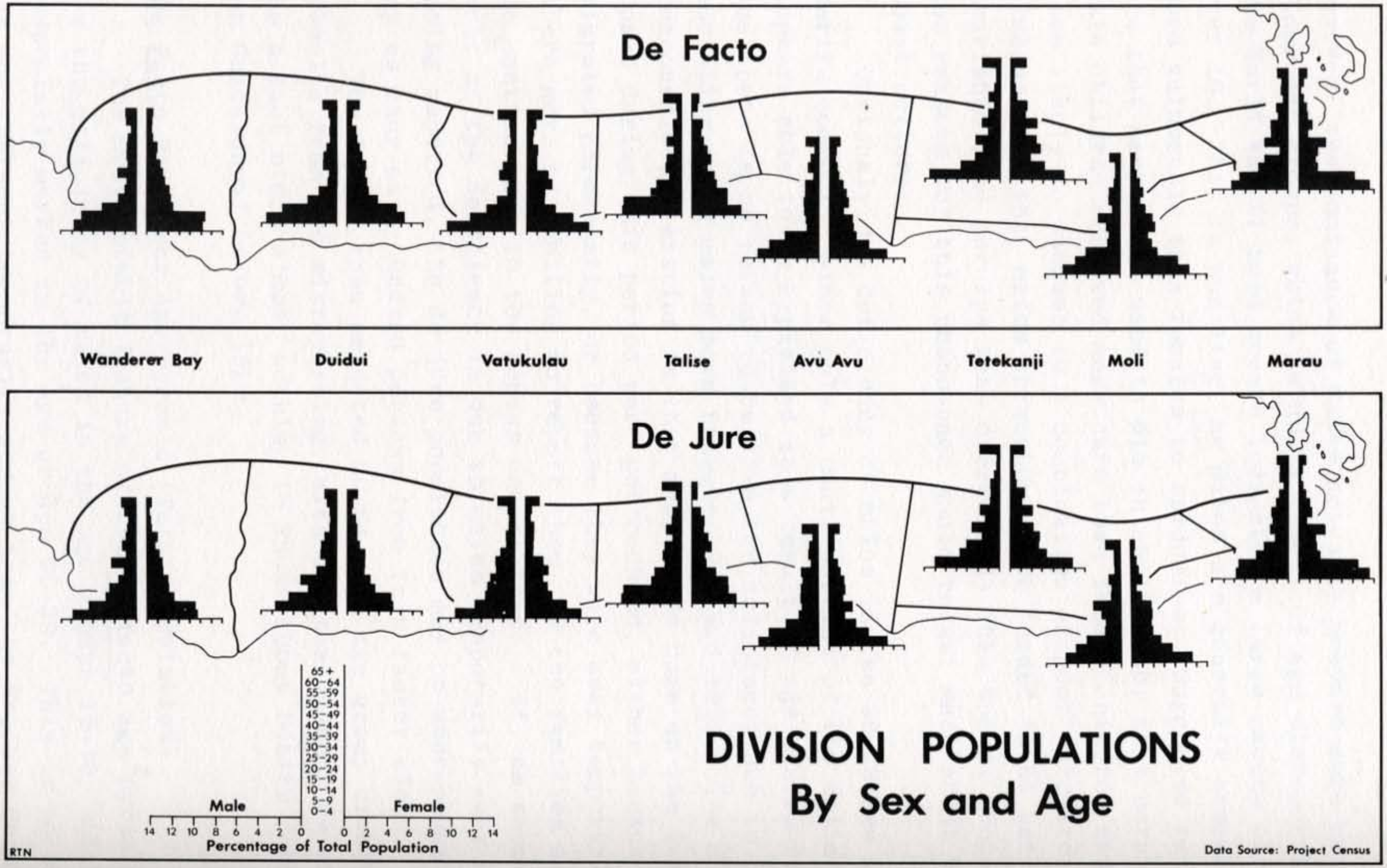

De Facto
Wanderer Bay
Duidui
Vatukulau
Talise
Avu Avu
Tetekanji
Moli
Marau
De Jure
65+
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
5-9
0-4
Male
Female
14 12 10 8 6 4 2 0
0 2 4 6 8 10 12 14
Percentage of Total Population
DIVISION POPULATIONS
By Sex and Age
RTN
Data Source: Project Census

Figure 3.7

Five-Year Age Pyramids by Ward, De Jure.

The Wanderer Bay age pyramid (Fig. 3.7) is similar to the Weather Coast age pyramid (Fig. 3.6), although the misclassification of men in the 30-34 age group appears to have been large. The male 15-19 age group is large and the male 25-29 age group is very small in Duidui. There was probably a misclassification of some males into the 15-19 age group but whether the small 25-29 age group was due to misclassification or underenumeration of residents absent, or both, cannot be determined. There is a very small percentage of females in the 0-4 age group.

The excess of females over males in age groups above 40 in Vatukulau (Fig. 3.7) is unique among the wards. Census data seem to indicate that Vatukulau has been an area of outmigration for many years and perhaps many of the males seeking employment elsewhere never returned. However, the same feature is not found in the Talise age pyramid even though census data indicate that Talise also has long been an area of outmigration. In the latter the small number of females 0-4 and the large number of males 25-29 are notable although the latter does not support the contention that the seeming deficit of men in that age group is due to temporarily absent males not being reported.

The most notable feature of the Avu Avu age pyramid is the sharp decline between age group 10-14 and 15-19. .The age pyramid is then roughly rectangular up to age 45. This may indicate that Avu Avu was especially unhealthy before the area-wide health improvements of the late 50's and early 60's.

The Moli age pyramid shows increasing numbers from age 20 to age 35. This may be a result of recent immigration stimulated by the Moro movement. The fluctuations in the Tetekanji age pyramid are largely due to chance variations as the population is very small. The Marau age pyramid is characterized by extreme youthfulness and a marked excess of females under age 10, which may be partly due to chance fluctuations as the population of Marau also is small. However, it seems likely that many girls 10-14 were erroneously reported as being under 10 years of age.

Five-Year Age Pyramids by Wards, De Facto

Many of the patterns of the de facto ward populations vary significantly from the total Weather Coast pattern. This is due to the fact that Moli has a large influx of visitors, whereas visitors and residents absent are approximately balanced in Wanderer Bay, Avu Avu, and Marau, and residents absent far outnumber visitors in Duidui, Vatukulau, Talise and Tetekanji. Therefore, it is best to compare the de facto age pyramids of the Wards with the corresponding de jure age pyramids.

The Wanderer Bay age pyramids indicate a moderate influx of adolescents (due to Babanakira school) and an outflow of young adults. However, the increase in the number of adolescents is not as large as might be expected, because other data indicate that a large number of resident adolescents are elsewhere. This may be due to religious preferences. Whereas Babanakira, an Anglican school, receives many pupils from Duidui, many Catholic children undoubtedly must go to Tangarare School.

The Duidui age pyramid shows the effect of heavy outmigration of young adult males. Although many children attend Babanakira school in Wanderer Bay, the outflow does not show on the de facto age pyramid because of the much smaller total de facto population. The result of the outflow is an increased percentage of children, older men, and women of all ages. The Vatukulau and Talise age pyramids similarly indicate a larger outflow of young adults.

The Avu Avu age pyramid results from a moderate outflow of young men and very few visitors. However, if all the students at Avu Avu school had been enumerated as attending the school, the age pyramid would undoubtedly have shown an inflow of young adolescents.

The Moli age pyramid is of interest because it is the one ward that attracts large numbers from other areas. The influx does not appear to change the age distribution greatly as it appears that families comprise the bulk of visitors. Most of the males leaving other wards in search of employment do not appear to be coming to Moli. The influx can be attributed almost entirely to the Moro movement.

The Tetekanji age pyramid is the result of virtually no visitors and a moderate number of residents elsewhere. The 10-14 age group is most affected since Tetekanji has no schools and the pupils must go to Makina.

In Marau, the number of visitors approximately equals the number of usual residents who are absent, so that the age pyramids are quite similar. Although some students may have to live in Makina, this is probably counterbalanced by students attending school at Kopiu Bay.

Marital Status as Indicated by the Weather Coast Five-Year Age Pyramids (1972 Census)

The Weather Coast de jure and de facto five-year age pyramids (Fig. 3.6) represent the marital experience of many different cohorts. Thus, the marital status of persons in the upper age groups does not imply that the same marital behavior will be followed by persons in the younger reproductive age groups, although it can be safely stated that persons today marry at very young ages by European standards, and that in the past almost everyone eventually married.

The de jure age pyramid indicates that over a quarter of women 15-19 are already married, and two-thirds of the women 20-24 are married or have been married. This percentage rises to over 90 per cent in the 25-29 age group and remains close to 95 per cent in the upper age groups.

The same pattern is evident among the men, although the men marry later. Whereas 50 per cent in the 15-19 age group are married, this figure rises to 31 per cent in the 20-24 age group, 66 per cent in the 25-29 age group, and nearly 90 per cent in the 30-34 age group. In the upper ages, those presently married or once married vary from 90 to 95 per cent. Although illegitimacy is rare, the generally early ages at marriage, and the near universality of marriage both favor a high birth rate.

The birth rate is also influenced by the number of persons of reporductive age who are widowed or divorced. The percentage who are divorced is low at all ages except the 65-74 age group, although, even here, the numbers involved are very small. The low rate of divorced persons does not necessarily mean few divorces, but that remarriage following divorce tends to be quick and almost universal. Marital dissolution should therefore have little influence on the birth rate.

The percentage of women who are widowed rises very rapidly throughout the reproductive ages and is well over 50 per cent in ages above 70. As over 10 per cent of women aged 40-44 are widowed, this factor does have a somewhat depressing effect on the birth rate, although it will become less important as increased life spans decrease the probability of dying in the reproductive years. The percentage of males who are widowed is very low in the younger age groups and does not reach 20 per cent below age 75, even though the age pyramid suggests that the death rates of males are not higher than those of females in the lower age groups, and that male survivors in the higher age groups are much more numerous than female survivors. Part of the reason is that men tend to marry women younger than themselves, but the primary reason is probably that widowed men find it much easier to remarry than widowed women. Whereas a 50 year old widower appears to have a good chance of marrying a much younger woman, a 50 year old woman who has borne a number of children would have a much more limited chance of remarriage. As the population pyramid rapidly widens in the younger age groups, marriage is almost guaranteed to men who want it.

The <u>de facto</u> age pyramid differs from the <u>de jure</u> age pyramid in one vital respect. In the age group 20-24, 31 per cent of the <u>de jure</u> males, but 46.6 per cent of the <u>de facto</u> males are married. In the 25-29 age group, the corresponding percentages for <u>de jure</u> and <u>de facto</u> males are 66.7 and 80.7 per cent. This is because the bulk of temporary wage migrants are single males.[1] It is questionable to what extent people are wage migrants because they are single, and to what extent wage migrants are single because they are wage migrants. It appears certain that the absence of some

1. Wrightson (1953) found that 56 per cent of all persons temporarily away from Vatukulau were single males aged 15-45, whereas only 26 per cent of the persons temporarily away were married males.

married males as wage migrants tends to depress the birth rate somewhat. The rates of marriage for <u>de facto</u> and <u>de jure</u> women are almost equal at all ages as few temporary migrants are women in their reproductive years.

The single-year age data show that 50 per cent of the Weather Coast <u>de jure</u> women are already married by age 18, while the percentage of women ever married rises to over 90 per cent by age 25. The single age data also show that not before age 25 are the majority of <u>de jure</u> males married, and that 90 per cent of them remain single until age 32. The marriage pattern in all subdivisions is similar to the Weather Coast pattern. The most striking departure from the norm is the fact that only 37.5 per cent (or 9 of 24) of the <u>de jure</u> women aged 15-19 in Tetekanji are still single. The 1970 de facto census indicated that only 9 of 23 women aged 15-19 in Tetekanji had never been married. Because of earlier marriage, for which no explanation is available, women 15-19 and 20-24 in Tetekanji had a higher average of children ever born than any other census division on the Weather Coast.

<u>Population Trends on the Guadalcanal Weather Coast 1931-1972</u>

Although there were no censuses taken of the Weather Coast of Guadalcanal before 1931, there was a widespread belief among local administrators that the population of Guadalcanal dropped precipitously between European penetration in the 19th century and World War II. The prevailing view about 1930 was that Moli and Marau were still suffering the ravages of depopulation, but that the populations of Sughu and Talise (which included Avu Avu up to 1930) had stabilized or were even slowly increasing (see Bedford 1970, Guadalcanal: 1,3). In the absence of population figures, it cannot be proved that the population was decreasing.

Data on plantation labor in the B.S.I.P. indicate very high mortality rates from 1913 (the first year data are available) to about 1928. Between 1951 and 1928 the annual mortality rate of laborers hovered around 2 per cent although the laborers were in those age groups from which one would have expected mortality to be almost nil. Returning laborers were probably the prime source of infection on the Weather Coast (Bennett, 1974). The persons themselves living on the Weather Coast believed that there had been a great depopulation, and the fact that the population of the Weather Coast has since increased greatly without straining the resource base, although methods of exploitation have hardly changed, suggests that the 1931 population was a remnant of a formerly larger one.

The B.S.I.P. 1931 census which appears to have been a de facto one, represents the first attempt to find out how many persons actually lived in the Solomon Islands, although headmen started to collect population data for the districts of Guadalcanal in 1929.

Results of the 1931 Census

The village count yielded 4,854 persons present on the Weather Coast in 1931 (Table 3.15) and it was estimated that a further 541 persons were temporarily absent from the Weather Coast. Thus, the estimated de jure population on the Weather Coast was 5,395 in 1931 compared with 8,425 in 1972, which indicates a growth of 56.2 per cent, or an average annual rate of 1.1 per cent (Tables 3.16 and 3.17).

Most of the population of Guadalcanal is thought to be of bush origin, yet by 1931 most of the Weather Coast inhabitants were already living on the coast. The largest concentration of population was on the coast between Sughu, Wanderer Bay and Longgu Avu Avu. This area contained a de facto population of 2,255 and an estimated de jure population of 2,522. Thus, an estimated 46.7 per cent of the Weather Coast population resided in this area. The coast between Longgu and Naho was apparently void of villages. A second string of coast villages from Naho (Fig. A-17) to Babasule (Fig. A-19) contained a de facto population of 514 and an estimated de jure population of 559. Apparently there were no coastal villages in eastern Moli, and isolated villages in Marau had a de facto population of 217 and an estimated de jure population of 228. Thus, it is estimated that coastal villages contained about 61.3 per cent of the Weather Coast inhabitants.

Table 3.15

Changes in the De Jure Population on the Weather Coast 1931-1972 (by 1972 census divisions)

Division	1931[a]	1941[b]	1944[c]	1957[d]	1963[e]	1965[f]	1972[g]
Wanderer Bay	858	1009	864	1000	922	982	1298
Duidui	1155	1296	1156	1402	1348	1352	1772
Avu Avu	541	570	435	546[h]	22[i]	332[m]	745
Moli	541	605	493	650	891[j]	872[l]	1187
Tetekanji	256	287	233	300	344	272[k]	433
Marau	228	247	208	300	383	340	570
Vatukulau	949	1065	941	1274	1253	206	1529
Talise	867	972	867	884	891	876	891
Total	5395	6051	5205	6356	6054	6232	8425
Total (minus Avu Avu)	4854	5481	4770	5810	6032	5900	7680

a Estimated from the use of the 1931 de facto Solomon Island census and the 1931 de jure headman census.

b,c Estimated with the assumption that the census divisions followed the population trends of the 1931-1944 districts they were contained in. District censuses were taken in 1941 and 1944.

d Estimated from 1957 administrative reports supplied to U.N. Yaws team.

e Results of 1963 head count conducted in November 1963.

f Results of population check carried out January - June 1965.

g Weather Coast census carried out November 1972.

h List of towns contained in Avu Avu contained most of the villages listed in Veuru Moli. It is not known whether the populations of any such villages were added to the Avu Avu total.

i All of Avu Avu except Verakelia missing.

j Sagassere, Osonakaro, Peonakake, Tavala and Vatulava enumerated in both Moli and Tetekanji. Osonakaro and Peonakake were assigned to Tetekanji and the others were assigned to Moli in accordance with their actual locations. The Tetekanji village counts were used as they appeared much more reasonable than the extremely low Moli village counts.

k Osonakaro (Pop. 88 in 1963; 111 in 1972) missing. Probable total is between 360 and 370.

l Tavala (Pop. 24 in 1963 and 17 and 1972) and Vatulava (Pop. 27 in 1963 and 12 in 1972) left off, probably because of confusion as to what subdivision they belonged to. Actual population of Moli was probably between 910 and 920.

m Part of Avu Avu left out. For example, Longgu and Avu Avu are missing.

Table 3.16
Percentage Changes in the De Jure Population on the Weather Coast 1931-1972 (by 1972 Census Divisions)

	1931-41[f]	1941-44[f]	1931-44	1944-57[a]	1944-57[b]	1957-63[c]	1963-72	1931-72
Wanderer Bay	17.6	-14.4	+.7	15.8	10.0	-2.9 (5.3)[e]	40.8 (29.8)[e]	51.3
Duidui	11.2	-10.8	.1	21.3	8.1	7.1	31.5	53.4
Avu Avu	5.4	-23.7	-19.6	25.5	25.5?	?	?	37.7
Moli	11.2	-18.5	-9.0	31.8	31.8	37.1	33.2	119.4
Tetekanji	11.2	-18.5	-9.0	28.8	28.8	14.7	25.9	69.1
Mauau	8.3	-15.8	-8.8	44.2	44.2	27.7	48.8	150.0
Vatukulau	11.2	-10.8	0	35.4	22.2	9.0	22.0	61.1
Talise	11.2	-10.8	0	2.0	2.0	.8	0	2.8
Weather Coast	12.2	-14.0	-3.5	22.1	15.8	9.2[d]	28.3[d]	56.2

a Unrevised

b Revised

c Using revised 1957 figures

d Minus Avu Avu

e With revised 1963 estimate

f Estimated from the population trends of the 1931, 1941 and 1944 subdivisions. For example, the present wards of Duidui, Talise and Vatukulau comprised the Talise subdistrict that existed from 1931-1944.

Table 3.17
Annual Changes in De Jure Growth 1931 to 1972
(by 1972 Census Divisions)

	1931-41	1941-44	1931-44	1944-57[a]	1944-57[b]	1957-63	1963-72	1931-72
Wanderer Bay	1.5	-5.3	0	1.1	.7	- .4(+.8)[c]	3.8(2.9)[d]	1.0
Duidui	1.1	-3.9	0	1.5	.6	1.1	3.0	1.0
Avu Avu	.5	-9.4	-1.6	1.8	1.8	?	?	.8
Moli	1.1	-7.1	- .7	2.1	2.1	5.0	4.5	1.9
Tetekanji	1.1	-7.1	- .7	2.0	2.0	2.2	2.6	1.3
Marau	.8	-5.9	- .7	2.9	2.9	3.8	4.4	2.2
Vatukulau	1.1	-3.9	0	2.4	1.6	1.3	2.2	1.2
Talise	1.1	-3.9	0	.2	.2	.1	0	.07
Weather Coast	1.2	-5.2	- .3	1.5	1.1	1.4	2.8	1.1
						(Minus Avu Avu)		

a Based on unrevised estimate.

b Based on revised estimate.

c With revised 1963 estimate.

d With revised 1963 estimate.

1. 1931 census supposedly taken April 1931; 1941 census taken April 1941.

2. 1944 census taken in April; elapsed time between 1941-1944 censuses 3.0 years.

3. 1957 estimates assumed to be made in April 1957. 1963 census taken October 1963. Elapsed time between 1957 report and 1963 census assumed to be 6.5 years.

4. 1972 census taken November 1972. Elapsed time between 1963 and 1972 censuses was 9.15 years. Elapsed time between 1931 and 1972 census 41.6 years.

The bush population was very unevenly spread across the Weather Coast. The main concentration (1,464, de facto and 1,620 de jure) was from the Tina Valley in the east to the Bolavu River in the west (Fig. 2.1). Even in this area, the bush population was concentrated in the river valleys, especially those of the Koloula and Kuma rivers. The bush population east of the Bolavu valley was very sparse, amounting to 240 de facto and 250 de jure persons, while the bush population east of the Tina River was also small, with 205 de facto and 231 de jure.

The population was concentrated in small villages, with few containing over 100 persons. However, it is not known whether the policy of including smaller village populations in the population of adjacent, but unrelated larger villages was followed in the 1931 census.

In general, the settlement pattern was fairly similar to the pattern of today, although the numbers involved were much smaller. The most obvious differences between 1931 and 1972 are the relative decline of the bush population (especially in Duidui, Vatukulau, Talise and Avu Avu), the very rapid growth of Moli and Marau compared with parts of Talise, and the growth of settlements that were unimportant or did not exist in 1931, such as Duidui and Haimarao.

Changes in the Weather Coast Population Between 1931 and 1957.

Unfortunately, the 1931 B.S.I.P. census was the last of its kind before 1970 and the vital registration attempted in Guadalcanal in the 1930s was so incomplete as to be meaningless. Yearly estimates of population were gathered by headmen and the more careful checks of 1941 and 1944 were dignified by the term "census." After World War II, even the attempts at collecting vital statistics and annual population estimates were abandoned.

Unfortunately, there is no record of village counts for the 1941 and 1944 census, although there are subdistrict reports for both years. The 1941 census indicated a Weather Coast population of about 6,051, (Table 3.15) which represented an increase of 12.2 per cent since 1931, (Table 3.16) or 1.2 per cent per annum (Table 3.17). If Guadalcanal's population was declining in the early twentieth century, it had definitely turned upwards by the early 1930's. The 1941 census indicates that the subdistricts of Sughu and Talise grew more rapidly than Avu Avu, Moli and Marau, thus accentuating the imbalance of population between east and west.

Guadalcanal's population suffered greatly from the ravages of World War II. Many succumbed to starvation or disease, or both, and many apparently fled to bush areas (Bedford 1970, Guadalcanal:4). The 1944 census indicated that the Guadalcanal population declined by 11.8 per cent in only three years, falling below even the 1931 population. Although no fighting took place on the Weather Coast, its population declined by 14.0 per cent between 1941 and 1944 (Table 3.16). However, although the District Officer claimed the 1944 figures were accurate "within 1 per cent" (Bedford,1970:4), this claim may be viewed with skepticism because of the disorganized conditions resulting from the war. At any rate, there is no doubt that a serious decline in population did occur.

The 1944 census indicates that the population loss was most severe in the eastern part of the Weather Coast, declining below 1931 levels in the area east of Talise, whereas the populations of Talise and Sughu remained at the 1931 level (Table 3.18).

Table 3.18

Per Cent Change in Population, By Districts

	1941-44	1931-44
Sughu	-14.3	+0.7
Talise	-10.8	+0.1
Avu Avu	-26.7	-19.6
Moli	-18.5	-8.9
Marau	-13.7	-8.3

Source: Bedford, 1970, Guadalcanal.

As a result, whereas the census areas from Wanderer Bay through Talise contained 72.1 per cent of the population in 1931, by 1944 they had 73.6 per cent.

For the period from 1944 to 1963, the only available records for the area are the subdivision population estimates provided for the United Nations yaws eradication team in 1957.

The estimated population indicates a 22.5 per cent increase in just 13 years, (Table 3.16) or an annual rate of growth of 1.5 per cent. (Table3.17) Only Talise did not show substantial growth, while the eastern area of Moli, Tetekanji and Marau showed more growth than the rest of the Weather Coast. With an increase of over 40 per cent, Marau appears to have had exceptional growth.

There are reasons to suspect, however, that many of the 1957 estimates were too high, since there is no reason to assume that the population had declined in any of the census divisions, by 1963. There is other evidence (Wrightson, 1953b) , to support the conclusion that the 1959 census was more accurate than the 1957 estimates. It may be reasonable to revise the estimates downward for Wanderer Bay from 1000 to 950, for Duidui from 1402 to 1250 and for Vatukulau from 1274 to 1125. The population figures for the other areas, except possibly Avu Avu, appear to be reasonable and in no need of revision. The revisions would reduce the population from 6,376 to 6,025 and the 1944-1957 growth to 15.8 per cent (Table 3.16). The revised estimated growth rate of 1.1 per cent appears more reasonable than the unrevised growth rate.[2] If these assumptions are correct, most of the growth from 1944 to 1957 was concentrated in the area from Avu Avu to Makina.

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2. The crude death rate was still high on the Weather Coast in the early 1950's. Wrightson's 1953 demographic survey indicates a crude death rate of 31.5 from 1946-1953 in Talise. The recorded birth rate was 38.0 but this was probably too low. A headman's annual report by Pipisi in 1955 indicates 80 deaths out of a population of 2,532. This would indicate a crude death rate of 31.5. The reported birth rate was 38.7 and the indicated growth rate was .8 per cent.

Village totals are available from the 1963 census, which enable the population of each village to be assigned to the proper (1972) census area except that the data for Avu Avu subdistrict are missing. There is another problem in that five villages were enumerated in both the Tetekanji and Moli subdistricts, with different results in each case. The Duidui total appears to be reasonable when compared with the 1959 census totals, but the population of the part of Wanderer Bay that corresponded to the Sughu districts 1 and 2 in 1959 was below the 1959 population count by a full 9.1 per cent (and the Sughu total in the 1959 census was 5 per cent lower than the unrevised 1957 estimate). The area that corresponded to Veuru Moli in 1959 had almost 25 per cent more persons in 1963. This is quite possible, however, because there is every indication that Moli's growth has been rapid since World War II. If the 1957 and 1963 figures are accurate, the census divisions from Wanderer Bay to Talise were losing population, whereas Moli, Tetekanji, and Marau gained substantially in this period.

It is fairly certain that the population of Wanderer Bay was undercounted in 1963, the best indication being that the 1963 tabulation of the Sughu area was only 160, whereas the 1965 population check indicated 244. It is difficult to find obvious errors in the other census divisions. A report on flood damage on the Weather Coast in 1965 suggests that the 1963 count is incomplete, at least in the Koloula Valley (Table 3.19). However, it gives conflicting population estimates for villages and illustrates the problems of ascertaining the true population of the Weather Coast without an accurate census.

Table 3.19

A Comparison of 1963 Census of the Koloula Valley and Population Reports Contained in the Official Tour and Flood Report of 1965

Village in Koloula Valley	1963 Population Report	Population Totals Contained Appendix B of Tour and Flood Report	Population Totals Contained in Text of Tour and Flood Report
Kochokocho 1	67	70	84
Kochokocho 2		65	
Valechomara	104	104	151
Valevuru	69	67	not listed
Valearanisi	68	30	not listed
Kapicha	not listed	30	not listed
Nabale	not listed	not listed	15
Total in Valley-309		400 listed as needing assistance	

Even though the Tour and Flood Report contains contradictions, its report of 400 persons needing assistance in the Koloula Valley indicates that at least 400 persons lived there in 1965. As there is no reason to believe that the population changed greatly between 1963 and 1965, it appears that the 1963 census under-enumerated the population of the Koloula Valley by nearly 100 persons.

The 1963 census enumerated 6,032 persons in areas outside of Avu Avu and an additional 22 persons in Verakelia, which in 1963 was in Chimiu, not Avu Avu, and was enumerated with the other Chimiu villages. By adding an estimated 500-600 more for Avu Avu, the total for the Weather Coast rises to 6,500-6,600, and could be raised further by correcting for assumed undercounts in Wanderer Bay and other census divisions.

Taken literally, the data indicate a 3.8 per cent increase over the unrevised 1957 population estimates and 9.2 per cent over the revised 1957 estimates (Tables 3.20 and 3.16). If the population of Wanderer Bay is raised from 922 to a more reasonable 1000, then the increase over the revised 1957 estimates would be 10.5 per cent. Such an increase would represent a growth of

Table 3.20
Revision of 1957 and 1963 Weather Coast Totals

	1957	1963
Wanderer Bay	950[a]	1000[a]
Duidui	1250[a]	1348
Vatukulau	1125[a]	1253[b]
Talise	884	891
Avu Avu	546	?
Moli	650	891
Tetekanji	300	344
Marau	300	344
Total	6012	?
Total, minus Avu Avu	5466	6110

a Totals revised from first estimate.

b This total was not revised. However, the 1965 Tour and Flood Report indicates that this total may have been too low by at least 100. The total was not changed because there is no assurance that the population totals in the Tour and Flood Report are accurate.

1.6 per cent per annum from 1957 to 1964, which is probably a conservative estimate as the Yaws campaign in 1957 and other health measures in the late fifties and early sixties undoubtedly greatly decreased mortality. The malaria eradication program, started in 1962, would have begun to stimulate the growth rate still further by 1963.

The distribution of population in 1963 was quite changed from 1931, with the most obvious shift in the rapid growth on the Moli and Marau coasts. A large area in eastern Moli and western Marau that was devoid of population in 1931 had 235 persons in 1963. Also noteworthy was the stagnation of the Talise population, in contrast to the rest of the Weather Coast. All of the census districts west of Avu Avu grew more slowly than the districts east of Avu Avu (and, of course, nothing is known about Avu Avu).

Of special interest are the trends in the bush population as government and missionary policies have long encouraged the relocation of the bush population to coastal settlements. Although the bush population may have been underenumerated in 1963, it is equally possible that it was undercounted in 1931, so a direct comparison of the two censuses seems reasonable (Table 3.21). Whereas the bush population exclusive of Avu Avu is estimated to have been 1,699 in 1931, the 1963 census indicated a bush population of 1,788. If the 1965 Avu Avu bush figures are used, then the 1963 bush figure becomes 2,031 compared with 2,021 in 1931. Thus, in spite of official discouragement, the bush population appears to have changed little between 1931 and 1963, although the proportion of bush to coast dropped significantly. The distribution of the bush population did change significantly (Fig. 3.2).

Table 3.21

Bush Population 1931-63

	1931	1963
Wanderer Bay	231	313
Duidui	479	412
Vatukulau	420	482
Talise	396	234
Tetekanji	256	388
Avu Avu	322	246 (in 1965)

Duidui and Talise experienced large bush population declines in the 32-year period, and the bush population of Avu Avu probably also declined, while those elsewhere increased substantially. The reasons for this are unclear, but may be related to the differential effects of mission policies (Chapter 2) or to different physical conditions in the interior (Chapter 5).

There appears to have been a great increase in the number of villages between 1931 and 1963 (Fig. 3.2), which is a natural consequence of population growth. However, the number of villages of over 100 persons appears also to have increased. The 1931 census indicated three villages of over 100 *de facto* persons and a generous estimate would be nine villages of over 100 *de jure* persons. By 1963, there were 13 villages of over 100 persons. It is notable that the large villages in 1931 were still larger than average villages in 1963. It would appear that largeness facilitates continuation. Duidui, the largest village indicated in 1963,[3] also experienced the most spectacular growth, from 32 *de facto* persons in 1931 to 191 *de jure* persons in 1963.

The January-June 1965 population check encompassed all of the Weather Coast, with the exception of the Longgu-Avu Avu Mission area, although it appears that much of the data are of questionable value. Its reported population of 982 for Wanderer Bay appears to be more reasonable than the 922 indicated by the 1963 census. (Table 3.15). But whereas the 1963 census indicates 160 in Sughu and vicinity, the 1965 census indicates 244. The 1965 census indicates an increase of only 4 persons in Duidui between 1963 and 1965, which suggests unlikely stagnation. Whereas the population of all small-name villages in Duidui totaled 191 in 1963, that of the listed small-name villages was 134 in 1965. This diminution appears very unreasonable, especially as Chapman (1970) reported

3. The 1965 census indicated 244 persons living in Sughu, and it is almost certain that more than 200 persons lived there in 1963. It is probable that Longgu, for which 1963 data are unavailable, was actually the largest village on the Weather Coast in 1963.

221 persons living in Duidui village in 1966. From this village alone, it would appear that the population of Duidui District grew by at least 60 (or 4 per cent) between 1963 and 1965.

The 1965 census indicates that the population of both Vatukulau and Talise declined between 1963 and 1965, which would be plausible if the census had been taken after June 1965, because floods in July of that year destroyed virtually all of the crops in the interior valleys and caused mass relocations of populations. The Kuma Valley in Vatukulau had 176 enumerated persons in 1963 but only 141 in 1965. A comparison of the population figures for the Koloula Valley given in the census and in the Flood Report is especially instructive as the flood presumably occurred immediately after the 1965 population check (Table 3.22).

Table 3.22

A Comparison of the 1965 Population Check and Population Reports Contained in the Official Tour and Flood Report of 1965

Villages in Koloula Valley	1965 Census	Population Totals in Appendix B of Flood Report	Population Totals in Text of Flood Repor
Kochokocho 1	(50	70	(84
Kochokocho 2	(	65	(
Valechomara	83	104	151
Valeruna	26	67	not listed
Valearanisi	28	30	not listed
Kapicha	not listed	30	not listed
Chalibale	15	not listed	not listed
Kologhogha	25	not listed	not listed
Nabale	not listed	not listed	15
Total in Valley	227 (309 in 1963)	400 listed as needing assistanc	

The discrepancies between the 1965 total, and the population indicated in both the Tour and Flood Report and the 1963 census, indicate that the 1965 population of Vatukulau is much too low. By comparison, the slight population decline in Talise may be reasonable in view of the stagnation in the overall population between 1931 and 1972.

Because the 1965 census omitted Avu Avu village and the populous Longgu area, there is no information on population trends in Avu Avu district between 1944 and 1970. However the 1965 census did show that the eastern coast, devoid of population in 1931, was at last being settled. The new village of Haimarao had 86 residents. The bush count of Avu Avu gave a total of 246 in 1965, which was far below the estimated total of 322 in 1931; it is doubtful whether resettlement of bush people in coastal villages would account for all of this difference.

The indicated decline in Tetekanji, from 344 in 1963 to 272 in 1965, is the result of the omission of Osonakaro (population 88 in 1963) in the 1965 census. The apparent decline in the population of Moli, from 891 in 1963 to 872 in 1965, results from the neglect of Tavala and Vatulava (with populations of 24 and 27 respectively in 1957) in the 1965 census. Osonakaro, Usonaro, Tavala and Vatulava were enumerated in both Moli and Tetekanji in 1963 and were apparently omitted in 1965 because of confusion as to which subdivisions they belonged. Assuming none of the villages changed populations, their inclusion would make the 1965 population of Tetekanji 360, and Moli 923, in 1965. As the 1965 census overlooked a number of Birao villages, it is impossible to judge what that district's population might have been.

As the 1970 census was a _de facto_ one, it is impossible to compare it directly with the 1963 and 1965 censuses, although it can be compared directly with the 1931 _de facto_ census (Table 3.23). But it is dangerous to draw too many conclusions from a direct comparison, since the _de facto_ population is much more volatile than the _de jure_ population. The number of persons leaving the Weather Coast in search of employment depends on economic conditions

Table 3.23
Changes in De Facto Population 1931-1972
(By 1972 Census Divisions)

	Total Population			Percent Change			Annual Change		
	1931	1970	1972	31-70	70-72	31-72	31-70	70-72	31-72
Wanderer Bay	763	1181	1278	54.8	8.2	67.4	1.1	2.9	1.2
Duidui	964	1356	1469	40.6	8.3	52.4	.8	2.9	1.0
Vatukulau	822	1197	1286	45.6	7.4	56.5	1.0	2.5	1.1
Talise	763	639	735	-16.3	15.0	-3.7	-.5	5.1	-.1
Avu Avu	487	743[a]	727[a]	52.3	-2.2	49.3	1.1	- .8	1.0
Moli	514	1271	1546	147.2	21.6	200.7	2.4	7.2	2.7
Tetekanji	240	392	385	63.3	- 1.8	60.4	1.3	- .7	1.1
Marau	217	530	569	144.2	5.8	162.2	2.3	2.1	2.3
Total	4770	7309	7987	53.2	9.3	67.4	1.1	3.7	1.2

a Indicated decline for Avu Avu due to the fact that the Avu Avu school population was counted in 1970, but not 1972. The population would have grown by about 70 had the censuses been comparable.

Censuses taken in April 1931, February 1, 1970, and November 27, 1972. Elapsed time between '31 and '70 census 38.8 years; elapsed time between '70 and '72 census 2.8 years; elapsed time between '31 and '72 census 41.6 years.

on the Weather Coast and the rest of the Solomon Islands, and even varies by the time of year. Whereas schools were virtually nonexistent on the Weather Coast in 1931, a number of boarding schools had been established by 1970, although the numbers attending vary greatly according to season. The Moro movement had a tremendous impact on the de facto population in 1970. For these reasons, the de facto population cannot be used as a proxy for the de jure population and even a comparison of two de facto censuses must be made carefully.

The 1970 de facto census does reveal marked differences in population from the 1931 census. Whereas both Moli and Marau experienced more than a doubling of populations, the de facto population of the western subdivisions, by contrast, grew much more slowly. There appears to have been a large absolute decline in the Talise population.

A closer look at the village enumeration totals reveals the importance of the schools and the Moro movement in the de facto distribution. The listed schools, plus the Avu Avu hospital, contained 465 persons or almost 6 percent of the population. Makaruka, which had a population of 105 in 1963 contained 395 de facto persons in 1970, an increase attributable to the influx of supporters of the Moro movement, many of whom undoubtedly came from other parts of the Weather Coast.

The November 1972 census of the Weather Coast is by far the most detailed census ever undertaken and undoubtedly the most accurate to date. It enumerated persons on both a de facto and de jure basis, which allows a comparison with all previous censuses (Tables 3.15, 3.16, 3.17 and 3.23).

The de facto census indicates an increase of 10.9 per cent between the 1970 and 1972 censuses, or an increase of 3.7 per cent a year. The de facto increase in Makaruka to 477 in 1972 indicates that the Moro movement greatly influenced the total de facto population and its distribution in 1972, but not necessarily the de jure population.

The 1972 census indicates that the de facto totals declined slightly in Tetekanji and Avu Avu between 1970 and 1972. While the decline in Tetekanji seems reasonable and may be related to the fact that it is a bush area with limited economic opportunities, the decline in the Avu Avu population is due to the decrease from 265 to 35 in the village of Avu Avu, which consists of mission headquarters, a hospital and a school. In 1972, the school had an enrollment of 133 persons, all boarders, but was already closed for vacation by the date of the census. How much this affected the 1972 _de facto_ totals depends on how many of the boarders came from areas outside of Avu Avu. The approximate magnitude of the difference obtained by counting the _de facto_ school population in 1970, can be measured by comparing the numbers in the 10-14 age group in Avu Avu in 1970 and 1972. In 1970, 161 of the listed _de facto_ population were age 10-14, compared with 80 in 1972. If the 10-14 age group is ignored, Avu Avu grew from 582 in 1970 to 647 in 1972, an increase of 11.1 per cent. This is probably about the magnitude of increase that would have been indicated had the 1970 census not counted the boarders at Avu Avu school.

The absence of the Avu Avu school population in 1972 can be expected to have increased the _de facto_ populations of Vatukulau and Talise the most because both districts have large Catholic populations and no Catholic schools. Indeed, the _de facto_ population aged 10-14 increased from 59 to 90 in Talise and from 97 to 138 in Vatukulau between 1970 and 1972. This suggests the total 1972 _de facto_ population counts in Talise and Vatukulau would have been smaller had the Avu Avu student population been in Avu Avu. The 15 per cent increase in the Talise _de facto_ population between 1970 and 1972 is puzzling, even without the influence of Avu Avu school, because all the censuses from 1931 to 1970 indicate a stagnation in the Talise _de jure_ population, and the 1972 _de facto_ population was even lower than the 1931 _de facto_ population. Possible reasons for the large increase between 1970 and 1972 are that the 1970 census badly undercounted the Talise population, that the Talise _de jure_ population included many Moro supporters who were in Moli in 1970 but not in 1972; and that 1965 flood victims were still returning to Talise between 1970 and 1972. It is unlikely that this large increase in the _de facto_ population indicates that the permanent population is again beginning to grow rapidly in Talise

The two-year de facto population growth in the western districts of Wanderer Bay, Duidui and Vatukulau was far below the Weather Coast average. By contrast, the de facto growth in Moli was far above the area average and would lead to a doubling of the population in less than 10 years. The Moro movement appears to be partly responsible for this increase although the total de facto population increase of 82 in Makaruka out of a total district increase of 332, suggests that the Moli population would be increasing rapidly even without the movement's impetus. Certainly, the de jure census data indicate continued rapid growth after World War II.

A comparison of the de facto population compared with the de jure population in both 1931 and 1972 (Table 3.24) indicates that the districts which were large labor exporters in 1972 were the same in 1931.

Table 3.24

Comparison of 1931 and 1972: De Facto as a Percentage of De Jure Population, and Percentages of Absentees and Visitors

Subdivision	De Facto as a Percentage of De Jure Population 1931	De Facto as a Percentage of De Jure Population 1972	Percentage of 1972 De Jure Population Absent from Village of Residence	Percentage of 1972 De Facto Population Visitors from Other Villages
Wanderer Bay	88.9	98.5	20.3	19.1
Duidui	83.5	82.9	27.1	6.5
Vatukulau	86.6	84.1	17.9	2.4
Talise	88.0	82.5	21.1	4.4
Avu Avu	90.0	97.6	8.7	6.5
Moli	95.0	130.2	7.8	29.2
Tetekanji	93.8	88.9	11.8	.8
Marau	95.2	98.4	14.2	12.8
Weather Coast	88.4	94.8		
Excluding Moli		89.0		

The four western subdivisions had large numbers absent in both 1931 and 1972. However, the de facto population was almost equal to the de jure population in Wanderer Bay because of the presence of Babanakira school. Duidui, Vatukulau and Talise exported both students and labor in 1972, the result being that their de facto populations as percentages of the de jure populations were even smaller in 1972 than 1931. The lack of visitors in the three subdivisons is a measure of their lack of economic opportunities.

Avu Avu has only a moderate number of residents absent and a gross underenumeration of visitors present because the Avu Avu school was not in session. Moli has the smallest percentage of residents absent, and a great percentage of visitors because, as already noted, it is the headquarters for the Moro movement. The small Tetekanji de facto total results from only a moderate number of absent residents, and virtually no visitors. There are no schools and apparently little economic activity to attract visitors. Birao has moderate numbers of residents absent and visitors present, largely as a result of Seventh Day Adventist students attending the Kopiu School and Catholic students attending the Makina school just north of the Weather Coast.

The 1972 de jure population totals indicate some redistribution of population since 1931. The population of the eastern districts of Moli, Tetekanji and Birao grew 114 per cent whereas the population of the rest of the Weather Coast grew by only 46 per cent between 1931 and 1972. The stagnation of the population in Talise indicates extensive outmigration from an area with little land available for agricultural development.

The shift in de jure population between 1963 and 1972 does not appear to be quite as dramatic as shifts between 1944 and 1963. The 1963 and 1972 censuses indicate a growth of 35.4 per cent in the area east of Avu Avu whereas the growth of the rest of the Weather Coast excluding Avu Avu is indicated as being 24.2 per cent. However, the errors in the 1963 census appear to be concentrated in Wanderer Bay and Vatukulau. The true growth rate of the four western subdivisions may actually have been in the range of 10 to 15 per cent.

Judging from the 1965 Tour and Flood Report, the subdistricts of Talise and Vatukulau were most severely affected in terms of redistribution of population following the floods. In a February 1966 tour report (Thomas, 1966), it was stated that few persons were returning to the Koloula Valley. People were reported to be "neglecting their homes and gardens here, journeying in the hope of better things to the Moro centre of Makaruka" (LCD, 1966).

One indication that extensive resettlement took place is the decline in the bush population between 1963 and 1972. (Table 3.25)

Table 3.25

Comparison of the 1963 and 1972 De Jure Bush Population on the Weather Coast

	1963 Bush Population	1972 Bush Population	Per cent Bush in 1963	Per cent Bush in 1972
Wanderer Bay	313	526	33.9	40.5
Duidui	412	338	30.6	19.1
Vatukulau	482[a]	501	38.5[c]	32.8
Talise	234	148	26.3	16.6
Avu Avu	246[b]	232	?	31.2
Moli	0	0	0	0
Tetekanji	344	433	100.0	100.0
Marau	0	21	0	3.7
Total	2,031	2,199	?	26.1
Total:minus Avu Avu	1,785	1,967	29.6	25.6

a If the 1965 Tour and Flood Report is accurate, the Vatukulau bush population is underenumerated by at least 100 persons.

b 1965 Figure. This figure may be too low as some of Avu Avu was not enumerated.

c If the Flood Report is accurate, 43 per cent would be a more realistic estimate.

Whereas the bush population held its own and even appears to have increased slightly, the bush populations of Talise and Duidui declined substantially, the bush population of Avu Avu declined slightly and the bush population of Vatukulau probably declined slightly. Some of this decline is definitely due to the floods (for example, the relocation of Ko'o in Duidui from a bush to a coastal site following the flood). However, the floods may have simply accelerated a long term decline in the bush population in the severely affected areas (see Table 3.21). The bush populations of Wanderer Bay and Tetekanji have shown continuous growth since World War II. The increasing percentage of the Wanderer Bay bush population is unusual and counter to the trend of population movement from the bush to the coast.

Although village counts of 1963 and 1972 are not directly comparable because of different methods of enumeration, it appears that population growth is much more the result of the establishment of new villages than the growth of existing villages. The 1963 census (with Avu Avu missing) enumerated 13 big name villages of over 100 inhabitants and the 1965 census, with different criteria, enumerated 19 villages of over 100 persons. (Longgu, which was not enumerated, certainly also had more than 100 inhabitants.) The 1972 census enumerated 20 big name villages with more than 100 inhabitants. Longgu, with 318 <u>de jure</u> inhabitants, was the largest "big" village on the Weather Coast in 1972, though unfortunately, the 1963 and 1965 totals for it are missing. Duidui, the second largest village, had 264 residents in 1972 and 191 residents in 1963. Sughu had 243 residents in 1972 and 244 in 1965. Many large villages in 1963 actually lost most of their population between 1963 and 1972. Examples are Biti (142 in 63, 59 in '72), Valechomara (104 in 1963; nonexistent in 1972), Ghaliatu (137 in 1963, 171 in 1965, and 24 in 1972) and Valepobo (104 in 1963 and 36 in 1972). It is of interest that the <u>de jure</u> population of Makaruka increased from only 93 in 1963 to 105 in 1965 to 121 in 1972, despite its importance as the headquarters of the Moro movement.

Fertility and Mortality on the Weather Coast as Indicated by the 1970 Census Results

The 1970 Census of the Protectorate was the first complete census taken since 1931, and far superior in quality, insofar as the enumerators had better training, the count was more complete because of better administrative control, efforts were made to find the age groups to which persons actually belonged, and data were collected in a form that made them amenable to conventional demographic analysis. Hence, the 1970 census contains much data missing in earlier headcounts and censuses.

Unfortunately, the 1970 census did not ask many simple questions that would have yielded useful information, such as the sex of children ever born and living, and there were many errors resulting from misclassifications by enumerators and misstatements by respondents (See Groenewegen, 1972). From the standpoint of the Weather Coast, the most serious problem in the 1970 census is in the fact that it was a *de facto*, rather than a *de jure* enumeration. A *de facto* census is easier to conduct, and the *de jure* and *de facto* counts in the B.S.I.P. and even in Guadalcanal (excluding Honiara) are virtually equal. On the Weather Coast, however, the *de facto* population is much lower than the *de jure* population because many young adult males, some young adult females, and many school children are away from the area at any given time, with the western subdivisions most affected. In past years, few outside persons visited the Weather Coast for temporary employment or any other reason, but in recent years the Moro headquarters at Makaruka has attracted many visitors from northern and central Guadalcanal. The *de facto* population on the Weather Coast is subject to marked fluctuations, depending on economic conditions, school terms, and activity in Makaruka. At the time of the 1970 census, many residents (albeit an unknown number) were away from the Weather Coast, and some non-Weather Coast families were temporarily residing in

Makaruka.[4] Apart from the Makaruka visitors, virtually the entire de facto population was also the de jure population. Fortunately, for the purposes of comparing fertility indicated by the 1970 census with the results of previous censuses, few women in the reproductive ages were temporarily away from the Weather Coast, an equally small number of women in the reproductive ages were visiting the Weather Coast, and virtually no Weather Coast children under 5 years of age were elsewhere.

Three extremely important questions asked to women in the 1970 census were, "How many children were born to you in the last year?" "How many children were ever born to you?" and "How many children born to you are still living?". Women often have inaccurate perceptions about what constitutes a year and tend to forget some children born, especially those born in the distant past or who subsequently died. However, William Brass (et. al, 1968:46-77) has devised elaborate procedures for estimating fertility and mortality from data on children born in the previous year and numbers of children born and surviving.

The Brass method for estimating fertility assumes that all age groups of women have the same time reference errors in reporting the number of children born in the previous 12 months. It also assumes that women 20-24 report the number of children ever born fairly accurately, but that the older a woman is, the more likely she is to forget children who were born to her. Brass empirically deduced that if one knows the ratio of children born to women 15-19 to children born to women 20-24, and the average of childbearing, one can predict within very close limits what the actual childbearing pattern is. He developed multipliers that express the childbearing pattern. Postulated average fertility is derived from the reported average number of births

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[4] Early in 1970, the Moro leaders called a meeting which would have coincided with the census. The government convinced the leaders to postpone the meeting. However, there were still approximately 300 visitors in Makaruka who were counted in the census.

occurring in the past twelve months to women in each age group multiplied by the Brass multipliers. The product (P_1) is compared to the stated number of children ever born (F_1). P_1/F_1 therefore represents the ratio of children reported ever born over the number of children ever born if the women reported the number of births occurring over the previous twelve months and <u>if childbearing behavior had not changed for a long period of time</u>. Usually this ratio drops with increasing age as older women forget more children ever born. Brass says that one should multiply P_1/F_1 in the 20-24 age group by the reported average number of births in the past 12 months per woman in each age group as he believes that women 20-24 accurately remember the number of children ever born. The addition of the results in each age group gives the estimated Total Fertility Rate (TFR).

For the 1970 Weather Coast data, P_1/F_1 was calculated to be .277. This determined the choice of Brass multipliers for the 15-19, 20-24, and 25-29 age groups. The mean age at birth was calculated to be 31.4. This determined the choice of Brass multipliers for the 30-34, 35-39, 40-44, and 45-49 age groups (Table 3.26).

Table 3.26

AGE SPECIFIC FERTILITY RATES ESTIMATED FOR THE 1970 DE FACTO WEATHER COAST FEMALES BY THE BRASS TECHNIQUE

Age at Census Time	Age Interval	Average Number of Births in Preceding 12 Months Per Woman	Cumulative Fertility to Beginning of Interval	Multiplying Factor for Estimating Average Fertility	Estimated Average Fertility (F_1)	Average Number of Children Ever Born Per Woman (P_1)	P_1/F_1	Adjusted Age Specific Fertility
15-19	1	.071		1.798	.127	.145	1.142	.078
20-24	2	.256	.355	2.813	1.075	1.186	1.103	.282
25-29	3	.333	.1635	2.999	2.634	2.480	.947	.367
30-34	4	.274	3.300	3.061	4.138	4.060	.981	.302
35-39	5	.233	4.670	3.175	5.410	5.033	.930	.257
40-44	6	.178	5.835	3.345	6.430	5.623	.874	.196
45-49	7	.076	6.725	3.745	7.010	5.691	.812	.084
15-49			7.105				estimated TFR =	7.830

P_1/F_1 = .277 $\overline{M}$ = 31.4

The estimated total fertility rate of 7.830 is quite high, but is lower than the TFR reported for some other Melanesian populations (Groenewegen, 1972:75). Groenewegen (1972) used the Brass method on the B.S.I.P. Melanesian population and calculated a TFR of 6.5. It appears that the Weather Coast total fertility rate, as indicated by the 1970 census, is considerably higher than the immediate pre-contact Weather Coast total fertility rate. This is supported by the numbers of children ever born reported by older women (Table 3.27).

Table 3.27

MEAN NUMBER OF CHILDREN BORN TO WOMEN

IN EACH AGE GROUP, WEATHER COAST AND B.S.I.P. MELANESIAN

Age	Weather Coast			B.S.I.P. Melanesian
15-19		.15		.10
20-24		1.19		.92
25-29		2.48		2.34
30-34		4.06		3.79
35-39		5.03		5.06
40-44		5.62		5.85
45-49		5.69		6.07
50-59	50-54	5.48	5.45	5.64
	55-59	5.41		
60+	60-64	4.76	4.45	4.98
	65-69	4.30		

Source: 1970 Weather Coast Census Tape and Groenewegen, Ibid, p.67

Although older women tend to forget children ever born, the larger number of children born to the younger Weather Coast women, and the smaller number of children born to older Weather Coast women, suggest that at one time Weather Coast fertility was lower than B.S.I.P. Melanesian fertility, but that the relationship has been reversed in recent years. Part of the difference between the 1970 estimated TFR and the mean number of children reported to older women is probably due to higher fertility in recent years.

By applying the estimated age specific birth rates to the female population in each age group, it can be estimated that 379 births took place in the previous year. Assuming the population grew by 3% in that year, the indicated birth rate was 52.7, which is extremely high, even by Melanesian standards. However, many of the males responsible were temporarily away at census time. The de jure population was probably at least 350 persons larger than the de facto population. Making this assumption would lower the birthrate to 49.5, which is only somewhat higher than the birth rate estimated for 1959 (47.2). The birth rate of women 15-49 is estimated to have been 231 (per 1,000 women) in 1970, while the rate of women 15-49 from 1954 to 1959 was estimated to be 205.[5] This indicates that the women in 1970 were bearing more children and that the crude birth rate in 1959 was similar to that in 1970 only because there was a higher proportion of women in the reproductive ages. Indeed, women 15-49 comprised 24 percent of the enumerated 1959 Weather Coast population, whereas the corresponding percentage in 1970 would have been about 21.5 percent had the census been a de jure one.[6]

In many Pacific Island populations, depopulation was associated with a large proportion of women who passed through the reproductive ages without bearing any children. The 1970 census data indicate that younger Weather Coast women tended to have children earlier than the B.S.I.P. Melanesian women, but that older Weather Coast women were more likely to have borne no children than their counterparts elsewhere in the Solomons (Table 3.28).

The data suggest that infertility was much more frequent on the Weather Coast in the past than at present, and this supports

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[5] This rate was calculated by taking the average number of births occurring each year between 1954-1959 and the average number of women 15-49 in the same period.

[6] Women 15-49 comprised 22.4% of the 1970 de facto population.

Table 3.28

NUMBER OF WOMEN WHO HAVE BORNE NO CHILDREN PER 1,000 WOMEN IN EACH AGE GROUP: WEATHER COAST AND B.S.I.P. MELANESIAN POPULATIONS 1970 (DE FACTO)

Present Age of Woman	Weather Coast	B.S.I.P. Melanesian
15-19	80.2	91.6
20-24	35.7	50.7
25-29	13.4	22.6
30-34	10.0	12.7
35-39	8.3	9.8
40-44	9.2	9.3
45-49	5.9	9.6
50-59	50-54 15.5 55-59 12.2 > 14.0	11.9
60+	60-64 12.1 65+ 25.2 > 20.2	15.1

Source: 1970 Weather Coast Census Tape and Groenewegen, 1972:65.

hypotheses that infertility was greater in the past because of poor health or venereal disease. However, apart from possibly forgotten children, it is also possible that childless women live longer than other women and are over represented in the census. While it is impossible to break the Weather Coast population into ever married and never married components, voluntary celibacy is almost nonexistent there. Involuntary sterility on the Weather Coast has probably declined with the advent of better health care, improved nutrition, and possibly because the mass yaws campaign also greatly reduced gonorrhea.

The ratio of children surviving to children ever born to women in given age groups provides a rough idea of past mortality trends. A comparison of the proportion of children surviving to women in each age group in the Weather Coast and Protectorate Melanesian populations (Table 3.29) indicate that mortality was higher among Weather Coast children in the past. This indicates lower expectations of life at birth in the Weather Coast population.

Table 3.29

NUMBER OF SURVIVORS PER 100 CHILDREN BORN TO WOMEN IN EACH AGE GROUP IN THE WEATHER COAST AND B.S.I.P. MELANESIAN POPULATIONS

Present Age of Woman	Weather Coast		B.S.I.P. Melanesian
15-19	93.9		93.5
20-24	86.3		91.5
25-29	86.8		88.7
30-34	82.0		85.6
35-39	79.9		82.8
40-44	77.5		79.1
45-49	74.2		76.0
50-59	50-54 64.5 55-59 61.4	> 63.0	70.2
60+	60-64 58.3 60+ 54.3	> 55.8	61.4

Source: 1970 Census Tape and Groenewegen, 1972:78.

Proportions surviving have been overstated because women are more likely to forget children who died than children who survived. There are also discrepancies in the Weather Coast data. Either health conditions improved greatly just before 1970 or the percentage of children surviving to Weather Coast women 15-19 is too high. The higher proportion of surviving children born to WeatherCoast women 25-29 compared with those born to Weather Coast women aged 2-24 indicates misreporting. However, the data taken as a whole indicate that health conditions on the Weather Coast in the past were far below those existing in the Protectorate as a whole.

Brass has devised a method for estimating expectation of life at birth ($_{o}e_{o}$) from data on children ever born and children surviving. With proper adjustments, the percentage of children surviving to women 15-19 expresses the probability before reaching exact age 1. Q (1), Q (2), Q (3), Q (5), Q (10), ----- Q (35) express the proportion dying before each specified age from the proportion surviving to women in each succeeding age group. The multipliers used to achieve this transformation are based on the ratio of children born to women 15-19, to children born to women 20-24 (P_1/P_2), and the mean age of childbearing ($\bar{m}$). The former is used for women 15-29, and the latter is used for older women. The expectation of life at birth for the various groups of children are then derived from a "West" life table.

Unfortunately, the children ever born and surviving were not enumerated by sex. Groenewegen (1972) used the "West"male life tables to compute the $_oe_o$s (Table 3.30).

The Brass method applied to the Weather Coast and B.S.I.P. populations indeed gives very different life expectancies.

Table 3.30

EXPECTANCIES OF LIFE AT BIRTH DERIVED FROM PROPORTIONS DEAD AMONG ALL CHILDREN BORN TO WOMEN IN EACH AGE GROUP: WEATHER COAST AND B.S.I.P. MELANESIAN, 1970

Age Group of Women	Women Age A of Child Survivorship	% Children Dead 9 (a)	Weather Coast Brass Multipliers	New Est. Dead (a)	$_oE_o$	B.S.I.P. Melanesian $_oE_o$
15-19	1	.061	1.060	.0647	61.0	59.8
20-24	2	.137	1.050	.1439	51.4	59.8
25-29	3	.132	1.016	.1341	53.5	56.0
30-34	5	.180	1.053	.1895	48.9	53.0
35-39	10	.201	1.063	.2137	47.9	51.2
40-44	15	.225	1.046	.2354	47.2	48.2
45-49	20	.258	1.050	.2709	45.3	47.3
50-54	25	.355	1.065	.3781	39.1	45.6
55-59	30	.386	1.069	.4126	38.6	43.7
60-64	35	.417	1.063	.4433	38.6	43.8

P_1/P_2 = .

P_1/P_2 = .133 $\bar{M}$ = 31.4 $\bar{m}$ = 30.9

Source: 1970 Weather Coast Census Tape and Groenewegen, 1972:79.

The indicated decline in the life expectancies of older children indicates that life expectancies were lower in the past. The decline may be understated in Table 3.30 because older women leave out higher proportions of dead children than do younger women.

Q (1) indicates mortality taking place in about the past two years. Brass recommends against its use because it is sensitive to small errors in the P_1/P_2 ratio. Q (2) represents mortality occurring in approximately the preceding 5 years. Ideally, this is the best measure of recent mortality because women 20-24 more accurately report children born and children surviving than do older women, although even women 20-24 years of age tend to leave out dead children resulting in an estimated ${}_oe_o$ that is somewhat too high. The indicated ${}_oe_o$ of children born to women 20-24 is also ideal from the standpoint that the method used in this report in calculating the crude death rate estimates deaths occurring in the previous 5-year period. Q (3) represents mortality in the preceding 8 or 9 years. As Q (3) was inconsistent with Q (2), the two indicated ${}_oe_o$'s were pooled and the resulting ${}_oe_o$ of 52.5 was assumed to be the average expectation of life at birth on the Weather Coast in the 5-year period preceding the 1970 census. This represents a great improvement over the ${}_oe_o$ of 35 years estimated for the period 1954-1959.

The crude death rate for the Weather Coast in the preceding 5-year period was estimated by the same method used for the 1953 demographic data and the 1959 Weather Coast census data. It must be stressed that the method is subject to errors in the age data, that the indicated ${}_oe_o$ may be too high because some women 20-24 forgot to report dead children, and that mortality on the Weather Coast did not necessarily follow the "West" pattern. The assumption is also made that the ${}_oe_o$'s of both males and females were assumed to be equal although there is no empirical evidence in the 1970 data to prove or disprove this assumption. The indicated crude death rate (and crude birth rate) is higher than that of the de jure population because most of the persons away from the Weather Coast are adolescents and young adults who are exposed to very low risks of dying. However, the method used does give a rough approximation of the de facto crude death and birth rates in the preceding 5 years (Table 3.31).

Table 3.31

ESTIMATED CRUDE DEATH AND BIRTH RATES OF THE MELANESIAN WEATHER COAST DE FACTO POPULATION 5-YEAR PERIOD UP TO THE 1970 CENSUS ASSUMING AN $_oe_o$ OF 52.5 YEARS FOR BOTH MALES AND FEMALES ("WEST" MODEL TABLE)

Age Group	No. Males	No. Females	P_x [a] Males	P_x [a] Females	Males Alive in 5-Year Period	Females Alive in 5-Year Period
0-4	720	706	.87647[b]	.87369[b]	821.48[c]	808.07[c]
5-9	644	611	.96121	.95381	669.99	640.59
10-14	429	358	.98672	.98368	434.78	363.94
15-19	260	338	.98585	.98286	263.73	343.89
20-24	160	258	.97939	.97691	163.37	264.10
25-29	215	314	.97479	.97213	220.56	323.00
30-34	238	251	.97194	.96846	244.87	259.17
35-39	201	180	.96706	.96452	207.85	186.62
40-44	133	163	.95924	.96011	138.65	169.77
45-49	131	136	.94796	.95406	138.19	142.55
50-54	110	103	.93063	.94201	118.20	109.34
55-59	87	90	.90521	.92229	96.11	97.58
60-64	89	58	.86766	.89018	102.57	65.16
65-69	63	30	.81344	.84131	77.45	35.66
70-74	45	34	.73803	.76938	60.97	44.19
75-79	36	22	.63440	.66670	57.75	33.00
80+	62	29	.39539	.41439	156.81	69.99
			No. Alive in Period		3,973.33	3,956.62
	3,623	3,671	Births in period		821.48	808.07

[a] Probability of surviving from previous age group to present age group

[b] Probability of surviving from birth to that age group

[c] Number born in 5-year period

Average number male deaths per year 70.07 Average male population in period 3,387
Male crude death rate 20.69

Average number female deaths per year 57.12 Average female population in period 3
Female crude death rate 16.75

Average Population in period 6,797 Crude Death Rate of entire population 18.71

No. of births in period 1,630 Average number 326 Crude Birth Rate of Total De Fac
Population 47.96

Indicated rate of natural increase in 5-year period 2.92%

Table 3.31 indicates a crude death rate of 18.7, which is considerably higher than the crude death rate of 13.9 calculated for the B.S.I.P. by Groenewegen, (1972:80). However, the crude death rate (especially for males) would have been somewhat lower had the _de jure_ population been used. The indicated crude birth rate of 48.0 is very high, but is lower than the crude birth rate of 52.7 indicated by the Brass method. Possible reasons for the discrepancy are that the Brass method considers births only in the previous year and that the birth rate rose during the 5-year period; the Brass method gave inaccurate results; the estimated ${}_{o}e_{o}$ was too high, resulting in an underestimate of births; and the population in the 0-4 age group was underenumerated. Some combination of these factors was probably responsible. Both methods do indicate very high fertility. Table 3.31 indicates that the average birth rate of women 15-49 was actually 214 per 1,000 between 1965 and 1970. This is still 5% higher than the indicated birth rate of 205 between 1954 and 1959. The indicated difference could conceivably be due to errors in data collection. The survival method indicates a TFR of 7.29 whereas the Brass method indicates a TFR of 7.83. The true TFR was probably between these values and was certainly very high.

The indicated growth rate of 2.9% would have been only slightly lower if the _de jure_ population had been considered. A 3% growth rate would lead to a doubling of the population in less than 25 years. The Weather Coast population in 1970 was experiencing rapidly declining mortality, high fertility, and rapid growth. The contrast with the Weather Coast population circa 1920 is remarkable.

Fertility and Mortality on the Weather Coast as Indicated by the 1972 Census Results

The 1972 census of the Weather Coast was the most complete census ever taken in the British Solomon Islands, and unusual because it enumerated both the _de facto_ and the _de jure_ populations.[7] This was an important procedure as the numbers and characteristics of the de jure and de facto populations of the Weather Coast are quite different. Short-run population characteristics are very much determined by the de facto population, but long-term trends are more influenced by the de jure, as this is the population that considers the Weather Coast "home".

Whereas the de facto population was easy to enumerate, the de jure population was difficult, because persons who were temporarily away from the Weather Coast could not be questioned. The criteria used for determining de jure residence resulted from Chapman's (1970) study on mobility patterns of Weather Coast residents. Whereas a few persons were undoubtedly left off the de jure count even though they considered themselves to be Weather Coast residents, the de jure criteria are much more reasonable than those used in the 1959 B.S.I.P. census.

It is conceptually preferable to use the de jure data in calculating demographic trends, because visitors to the Weather Coast do not affect long-term trends whereas Weather Coast residents temporarily elsewhere, greatly affect them. In practice, the rates calculated from either de jure or de facto data are quite similar in most instances because almost all Weather Coast de facto residents are also de jure residents, and most de jure residents are also de facto residents. It was decided that both de jure and de facto rates should be computed where they could be compared directly to those from 1970 census data. Only de jure data were used to calculate rates that could not be obtained from the more limited 1970 census data. In this way, 1972 de facto data could be compared directly to the 1970 census data, whereas the conceptually preferable de jure data were used for additional information.

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[7] While no national censuses have been taken of both the de jure and de facto populations at the same time, various researchers have enumerated both de facto and de jure populations in South Pacific populations.

The Age Data

The data on ages indicate that the Weather Coast population has been getting younger. In the 1972 de facto population, 22.5 percent were enumerated as under 5 years of age and 51.2 percent as under age 15. The comparable figures for the de jure population were 21.3 percent and 48.7 percent (Fig. 3.6). The differences in the de jure and de facto figures result from the temporary absence of many persons over 15 years of age. The comparable figures for the 1970 de facto population were 19.6 percent and 47.6 percent respectively, a great change in less than 3 years, which undoubtedly reflects increasing fertility and declining mortality. However, it is possible that ages may have been slightly overestimated in the 1970 census, which was taken early in the year, and perhaps underestimated in the 1972 census which was taken late in the year. However, the contrast with earlier populations is noteworthy. In the 1959 de jure population, 16.4 percent were under 5 years of age and 41.9 percent were under 15 years of age, while in the 1953 Vatukulau population, 17.5 percent were under 6 years of age and 41.7 percent were under 16 years of age. The comparable figures from the 1931 census were 13.6 percent and 36.4 percent. This increase is due primarily to declining mortality, which has benefited the youngest age groups most. However, there are strong indications to be discussed below that fertility on the Weather Coast has also been increasing recently.

In comparing the youthfulness of the Weather Coast population to that of similar populations, it is preferable to use the percentage under 15 as the basic measurement, because the enumeration of those under 5 years of age is usually subject to the most errors of any age group. A comparison of the 1972 Weather Coast population with others in Melanesia indicates that it is more youthful than most. In the 1970 Melanesian B.S.I.P. population, 44.5 percent were enumerated as under 15 years of age. Table

3.32 indicates the percentage under 15 in Melanesian populations at various dates.

Table 3.32

YOUTHFULNESS OF SELECTED MELANESIAN POPULATIONS

Group	Location	Year	Percent Under 15	Source
Lamankua, Solas	Buka	1965	52	Scragg, 1967:562-563
Weather Coast (De facto)		1972	51.2	1972 Weather Coast Census
Noemfoor	West Irian	1961	50.6	Groenewegen, 1967:89
Schoulten Islands	West Irian	1960	50.5	Groenewegen, 1967:89
Matupit	New Britain	1960	50.2	Epstein, 1962:72
Rapitok	New Britain	1960	49.2	Epstein, 1962:72
Weather Coast (De Jure)		1972	48.7	1972 Weather Coast Census
Nimboran	West Irian	1966	47.3	Groenewegen, 1967:89
New Hebridean	New Hebrides	1967	46.4	Zwart, 1968:35
Fijian	Fiji	1966	44.5	McArthur and Yaxley,19
Fak-fak	West Irian	1962	44.6	Groenewegen, 1967:89
Lower Waropean	West Irian	1961	44.1	Groenewegen, 1967:89
Moejoe	West Irian	1962	39.2	Groenewegen, 1967:89
Tigak, Tabar	New Ireland	1965	38	Scragg, 1967:562-563
Chimbu	New Guinea	1960	36	Brown & Winefield, 196

In the future, it is likely that the percentage under 15 on the Weather Coast will increase still further, since there is no indication that fertility will decline, and the proportion under 15 was influenced by a high death rate that persisted until the early 1960s. By 1980, probably over half of the de jure population will be under 15 years of age.[8]

[8] In a stable population with a birth rate of 52 percent and a life expectancy at birth of 65 for females and 61.2 for males, about 54 percent of the population would be under 15 years of age, according to "West" model life tables. The de jure birth rate of the Weather Coast is close to 52, and the above life expectancies will undoubtedly be reached on the Weather Coast by the end of this decade.

Fertility Indicated by Data on Children Ever Born and Children Surviving

In the 1972 census, females were asked how many children were born to them in the preceding 12 months and how many children were born to them during their lifetimes. The women appear to have overestimated the number of children born in the previous 12 months. The application of the Brass (et al, 1968) fertility techniques on the de jure and de facto populations yield somewhat different results (Table 3.33).

The indcated difference in de facto and de jure total fertility is based on the fact that the age group 20-24 was the one age group in which the de jure and de facto women reported significantly different numbers of children born in the last 12 months. Otherwise, the reported data are very similar. Yet, this is the age group that is crucial in the Brass technique. It may be that females in this age group who are temporarily away have fewer children than their counterparts who stay on the Weather Coast, and/or that the de facto total fertility rate (TFR) is overestimated. Either figure, however, is extremely high. Most contemporary studies of Melanesian socieities indicate TFRs of between 6.0 and 7.5. Indeed, the computed B.S.I.P. Melanesian TFR from the 1970 census data was only 6.187, although the indicated TFR in the Western Region was 8.136 (Groenewegen, 1972:71). Similarly the computed TFR of the Buka population between 1962 and 1967 was 8.680 (Ring and Scragg, 1973:92) while the computed Hutterite TFR in 1953 was 10.8 (Eaton and Mayer, 1954:146). Thus, although the indicated fertility rates are very high, they are not impossible. The indicated increase from the 1970 figure of 7.83 is quite startling. A comparison of the indicated fertility rates and children ever born of 1972 de facto women and 1970 de facto women indicate that fertility has increased in the younger age groups.

Table 3.33

AGE SPECIFIC FERTILITY RATES ESTIMATED FOR THE 1972

DE FACTO AND DE JURE WEATHER COAST FEMALES BY THE BRASS TECHNIQUE

Age At Census Time	Average Number of Births in Preceding 12 Months Per Woman	Cumulative Fertility to Beginning of Interval	Multiplying Factor for Estimating Average Fertility	Estimated Average Fertility	Average Number of Children Ever Born Per Woman	P_{1/F_1}	Adjusted Age Specific Fertility
			De Facto Females				
15-19	.134		2.084	.279	.279	.982	.118
20-24	.354	.670	2.858	1.682	1.485	.883	.313
25-29	.421	2.440	3.019	3.711	2.938	.792	.372
30-34	.406	4.545	3.061	5.815	4.493	.773	.358
35-39	.346	6.575	3.173	7.703	5.361	.696	.306
40-44	.200	8.305	3.340	9.015	5.480	.608	.177
45-49	.100	9.305	3.741	9.753	5.679	.582	.088
Total 15-49		9.805			Estimated TFR		8.660
	f_{1/f_2} = .379	$\bar{M}$ = 364					
			De Jure Females				
15-19	.137		2.152	.273	.277	1.015	.118
20-24	.339	.685	2.868	1.657	1.432	.864	.293
25-29	.415	2.380	3.026	3.636	2.952	.812	.359
30-34	.391	4.456	3.063	5.655	4.482	.793	.338
35-39	.348	6.413	3.175	7.518	5.558	.739	.301
40-44	.196	8.153	3.345	8.808	5.748	.653	.169
45-49	.101	9.132	3.745	9.509	5.734	.603	.087
Total 15-49		9.635			Estimated TFR		8.325
	f_{1/f_2} = .404						

The convergence of children reported born among women 40-49 in 1970 and 1972 (Table 3.34) supports the suggestion that fertility is increasing in the younger age groups. If the indicated fertility rates are applied to the 1972 de jure population and the population was assumed to have grown 3.7 percent in the previous year (the indicated de facto growth rate was 3.7 percent between 1970 and 1972), the de facto birth rate was 55.9. This figure is inflated by the temporarily absent males who are not counted as part of the <u>de facto</u> population. The indicated birth rate per 1,000 <u>de facto</u> women 15-49 was 262. The corresponding rates calculated for 1970 were 52.7 and 231, which suggest a fertility increase of over 10% in just three years. The fertility rates indicated for the 1972 <u>de jure</u> population indicate a crude birth rate of 50.6 in the <u>de jure</u> population if the population grew 3.7 percent the previous year, and a birth rate of 244 per 1,000 women aged 40-49. The true <u>de facto</u> total fertility rate may be similar to that calculated for the <u>de jure</u> population, but even the latter figure represents a considerable increase over 1970.

Table 3.34

INDICATED FERTILITY RATES AND REPORTED CHILDREN EVER BORN OF 1972 AND 1970 <u>DE FACTO</u> WEATHER COAST WOMEN

Age Group	1972 Fertility Rate	1970 Fertility Rate	1972 Reported Children Ever Born	1970 Reported Children Ever Born
15-19	.118	.078	.274	.145
20-24	.313	.282	1.485	1.186
25-29	.372	.367	2.938	2.480
30-34	.358	.302	4.493	4.060
35-39	.306	.257	5.361	5.033
40-44	.177	.176	5.480	5.623
45-49	.080	.084	5.679	5.691

Data on the percentage of <u>de facto</u> women who are childless at given ages in 1972 and 1970 (Table 3.35) support the notion that women are having their first child earlier and that infertility is perhaps declining. However, it should be noted that ther are discrepancies in the ages in which women should have completed childbearing.

Table 3.35

NUMBER OF WOMEN WHO HAVE BORNE NO CHILDREN PER 1,000 WOMEN IN EACH AGE GROUP DE FACTO MELANESIAN WOMEN IN 1970 AND 1972

Age of Woman	Percent Bearing No Children	
	1972	1970
15-19	77.0	80.2
20-24	34.6	35.7
25-29	10.7	13.4
30-34	8.0	10.0
35-39	6.1	8.3
40-44	8.4	9.2
45-49	8.6	5.9
50-54	9.1	15.5
55-59	3.0	12.2
60-64	10.0	12.1
65+	13.8	25.2

The 1972 census indicates a much lower incidence of childlessness in the older age groups. The 1972 data on women over 65 seem to be more reasonable as it is difficult to imagine a sterility rate of 25 percent in a pre-industrial society in which venereal disease was not hyperendemic. Perhaps the question on children born was asked differently in the 1972 census. Because of inconsistencies in the data, Table 3.35 does not offer conclusive evidence that the average age at first childbearing is declining or that sterility is declining on the Weather Coast.

The 1972 census data allows us to test hypotheses on why fertility is assumed to be increasing and to measure the contribution to fertility made by different segments of the population. However, discussion on these points will follow the section on mortality. Fertility changes seem to be linked to mortality changes and methodsused to compute crude death rates also give estimates of fertility, which offer valuable evidence as to the validity of the total fertility rates computed by the Brass method.

Mortality

In the 1972 census, as in the 1970 census, the only questions asked that indicate mortality trends were "How many children have been born to you?" and "How many of your children are still living?" The data on the percentage of children still surviving to women (Table 3.36) indicates a recent drop in mortality.

Table 3.36

NUMBER OF SURVIVORS PER 100 CHILDREN BORN TO MELANESIAN WOMEN IN EACH AGE GROUP: 1972 *DE FACTO* AND *DE JURE* AND 1970 DE FACTO POPULATIONS

	Present Age of Women										
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+
72 De Jure	94.0	91.4	90.7	86.4	82.0	79.4	76.1	71.1	64.5	62.1	57.5
72 De Facto	95.8	91.5	91.1	86.3	81.8	78.8	77.5	71.5	64.4	62.3	57.5
70 De Facto	93.9	86.3	86.8	82.0	79.9	77.5	74.2	64.5	61.4	58.3	54.3

Except in the 15-19 age group, the 1972 *de facto* and *de jure* rates are virtually identical. Few children were born to women 15-19 and, because of the small numbers involved, one additional death in the *de jure* population greatly influences the rate in the 15-19 age group. The similarities in the other age groups results from the fact that the *de jure* and *de facto* women are basically the same persons.

In 1972, the women were asked the number of children ever born and now living by sex. This allows us to test the hypothesis that in the past males lived longer than females. The estimation of past male and female life expectancies by the use of the Brass method suggests that male life expectancy in the past may have been longer than female life expectancy (Table 3.37).

To ascertain how the results may have been biased by differential reporting of children born by sex by older women, I calculated the sex ratio of all children ever born to *de jure* women

Table 3.37

EXPECTANCIES OF LIFE AT BIRTH DERIVED FROM PROPORTIONS DEAD AMONG ALL MALES AND FEMALES BORN TO WOMEN IN EACH AGE GROUP: 1972 DE FACTO AND DE JURE MELANESIAN WOMEN (DERIVED FROM "WEST" MODEL LIFE TABLES)

De Facto

Age Group of Women	Average Age of Child Survivorship	% Males Dead	% Females Dead	Brass Multipliers	Males Dead	Females Dead	$_oe_o$ Males	$_oe_o$ Females
15-19	1	.0600	.0263	.999	.0599	.0263	61.8	70.8
20-24	2	.0790	.0931	1.021	.0807	.0951	60.0	58.4
25-29	3	.0896	.0745	1.000	.0896	.0745	59.8	62.9
30-34	5	.1422	.1349	1.053	.1497	.1420	52.8	54.7
35-39	10	.1977	.1663	1.063	.2102	.1767	48.5	52.3
40-44	15	.2018	.2290	1.046	.2111	.2396	48.9	47.3
45-49	20	.2159	.2321	1.050	.2267	.2437	49.2	48.7
50-54	25	.2763	.2964	1.065	.2943	.3157	44.8	44.6
55-59	30	.2894	.4211	1.069	.3091	.4501	46.3	36.8
60-64	35	.3444	.4042	1.063	.3669	.4297	44.1	40.7
65-69	40	.1743(?)	.4453	not used				
70-74	45	.4096	.4889					
70+	50	.3147	.4321					

$\bar{M} = 31.4$ $\quad P_{2}/P_{1} = .184$

De Jure

Age Group of Women	Average Age of Child Survivorship	% Males Dead	% Females Dead	Brass Multipliers	Males Dead	Females Dead	$_oe_o$ Males	$_oe_o$ Females
15-19	1	.0727	.0500	.990	.0720	.0495	59.6	65.0
20-24	2	.0759	.0967	1.016	.0771	.0982	60.2	58.0
25-29	3	.0844	.1000	.997	.0842	.1000	60.0	59.0
30-34	5	.1391	.1290	1.053	.1465	.1358	53.2	55.8
35-39	10	.1903	.1690	1.063	.2029	.1796	48.7	52.4
40-44	15	.2005	.2196	1.043	.2092	.2290	48.9	48.4
45-49	20	.2175	.2519	1.050	.2284	.2645	49.1	47.1
50-54	25	.2772	.2973	1.065	.2952	.3166	44.7	44.8
55-59	30	.2850	.4221	.1069	.3047	.4512	46.1	37.0
60-64	35	.3579	.4021	1.063	.3804	.4274	42.9	40.4
65-69	40	.2568(?)	.4288	not used				
70-74	45	.4123	.4778					
75+	50	.3241	.4569					

$P_{2}/P_{1} = .193$ $\quad \bar{M} = 31.4$

and all children born to de jure women 55 years of age and over. The sex ratio should be about the same in both groups if all women equally remember males and females ever born. The sex ratio (i.e., males per 100 females) at birth was reported to be 109 among all women and 108 among women 55 years of age and over. This suggests that the data do accurately portray longer life expectancies for men in the past, despite obvious deficiencies in the data.

To ascertain the average life expectancies in the previous 5-year period, the expectation of life indicated by the mortality of children born to women 20-24 is used. In the de jure population, the indicated ${}_oe_o$s are 60.0 and 58.4 for males and females respectively. In the de facto population, the indicated ${}_oe_o$s are 60.2 and 58.0 respectively. However, in both populations, the ${}_oe_o$ of females born to women 25-29 are higher than the ${}_oe_o$ of females born to women 20-24. On this basis, the ${}_oe_o$ of both females and males born to de facto and de jure women 20-24 is estimated to be 60.0 years. This is close to the ${}_oe_o$ of 61.0 estimated for children born to de facto women 15-19 in 1970 and the indicated ${}_oe_o$ of the entire Melanesian population in the B.S.I.P. in 1970. This indicates a time lag in mortality decline between the B.S.I.P. and the Weather Coast. The increase in the ${}_oe_o$ from 52.5 in 1970 to 60.0 in 1972 reflects the effects of health programs instituted in the late 60's. Tables 3.38 and 3.39 indicate that the crude death rate has dropped considerably.

The indicated decline in the crude death rate in just a few years time is remarkable. The de jure death rate is lower than the de facto death rate because the de jure population includes more young adult males with very low probabilities of dying. The male crude death rates are higher than the female crude death rates simply because more males are in the older age groups, in which probabilities of dying in a 5-year span are quite high. Presumably, the de jure crude death rates of both

Table 3.38

ESTIMATED CRUDE DEATH AND BIRTH RATES OF THE MELANESIAN <u>DE FACTO</u> POPULATION IN 5-YEAR PERIOD UP TO THE 1972 CENSUS, ASSUMING AN $_oe_o$ OF 60.0 YEARS FOR BOTH MALES AND FEMALES ("WEST" MODEL LIFE TABLES USED)

Age Group	No. Males	No. Females	Px[a] Males	Px[a] Females	Males Alive in 5-Year Period	Females Alive in 5-Year Period
0-4	926	858	.92312[b]	.91708[b]	1003.12[c]	935.58[c]
5-9	724	693	.97997	.97441	738.80	711.20
10-14	453	406	.99211	.99024	456.60	410.00
15-19	257	321	.99108	.98950	259.31	324.41
20-24	161	291	.98668	.98553	163.17	295.27
25-29	171	292	.98519	.98223	173.57	297.28
30-34	249	276	.98242	.97953	253.46	281.77
35-39	160	191	.97916	.97633	163.41	195.63
40-44	157	150	.97324	.97218	161.32	154.29
45-49	131	140	.96348	.96600	135.97	144.49
50-54	103	100	.94808	.95502	108.64	104.71
55-59	85	69	.93657	.93775	90.76	73.58
60-64	115	77	.88983	.90968	129.23	84.65
65-69	69	37	.83923	.86524	82.22	42.76
70-74	48	41	.76669	.79681	62.61	51.46
75-79	39	27	.66542	.69691	58.61	38.74
80+	68	35	.42378	.44301	160.46	79.00
			Births in Period		1003.12	935.58
	3926	4003	No. Alive in Period		4201.26	4224.82

[a] Probability of surviving from previous age group to present age group

[b] Probability of surviving from birth to that age group

[c] Number born in 5-year period

Average number male deaths per year 55.05 Average male population in period 3,562
<u>Male Crude death rate</u> 15.45

Average number female deaths per year 44.36 Average female population in period 3,
<u>Female Crude death rate</u> 12.17

Average population in period 7,208 <u>Crude death rate of entire population</u> 13.79

Number of births in period 1939 Average number 387.7 <u>Crude birth rate of de facto population</u> 53.79

Indicated rate of natural increase in 5-year period 4.00%

Table 3.39

ESTIMATED CRUDE DEATH AND BIRTH RATES OF THE MELANESIAN WEATHER COAST DE JURE POPULATION IN 5-YEAR PERIOD UP TO THE 1972 CENSUS, ASSUMING AN $_oe_o$ OF 60.0 YEARS FOR BOTH MALES AND FEMALES ("WEST" MODEL LIFE TABLES USED)

Age Group	No. Males	No. Females	Px[a] Males	Px[a] Females	Males Alive in 5-Year Period	Females Alive in 5-Year Period
0-4	921	858	.92312[b]	.91708[b]	997.70[c]	935.58[c]
5-9	705	669	.97997	.97441	719.41	686.57
10-14	476	443	.99211	.99024	479.79	447.36
15-19	392	343	.99108	.98950	395.53	346.64
20-24	284	301	.98668	.98553	287.83	305.42
25-29	234	289	.98519	.98223	237.52	294.23
30-34	295	276	.98242	.97953	300.28	281.77
35-39	187	181	.97916	.97633	190.98	185.39
40-44	173	143	.97324	.97218	177.76	147.09
45-49	140	139	.96348	.96660	145.31	143.80
50-54	104	99	.94808	.95502	109.70	103.66
55-59	94	66	.93657	.93775	100.37	70.38
60-64	116	77	.88983	.90968	130.45	84.65
65-69	71	36	.83923	.86524	84.60	41.60
70-74	46	42	.76669	.79681	56.00	52.71
75-79	38	22	.66542	.69691	57.11	31.56
80+	65	32	.42378	.44301	153.38	72.23
			No. Alive in Period		4627.72	4230.64
	4341	4016	Births in Period		997.70	935.58

[a] Probability of surviving from previous age group to present age group

[b] Probability of surviving from birth to that age group

[c] Number born in 5-year period

Average number male deaths per year 57.34 Average male population in period 3,986
Male crude death rate 14.32

Average number female deaths per year 42.93 Average female population in period 3,655
Female crude death rate 11.75

Average population in period 7,641 Crude death rate of entire population 13.12

Number of births in period 1,933 Average number 386.6 Crude birth rate of total De Jure population 50.60

Indicated rate of natural increase in 5-year period 3.75%

sexes will become similar when the present older age groups are deceased.

The crude birth rates and birth rates per 1,000 women 15-49 indicated by the Brass and Reverse Survival methods are summarized in Table 3.40.

Table 3.40

CRUDE BIRTH RATES AND BIRTH RATES PER WOMEN 15-49 CALCULATED BY THE BRASS AND REVERSE SURVIVAL METHODS--1972 DE FACTO AND DE JURE MELANESIAN WOMEN AND 1970 DE FACTO MELANESIAN WOMEN

	Brass Technique		Reverse Survival Techn	
	Crude Birth Rate	Births Per 1,000 Women 15-49	Crude Birth Rate	Births Per 1,000 Women 15-29
1972 De Facto Population	55.9	262	53.8	250
1972 De Jure Population	50.6	244	50.6	248
1970 De Facto Population	52.7	231	49.0	214

The correspondence between the rates calculated by both methods for the 1972 _de jure_ population is almost perfect. There is also an almost complete correspondence between the births per 1,000 women aged 15-49 in both the 1972 _de jure_ and _de facto_ populations if the reverse survival technique is used. This is to be expected as the _de jure_ and _de facto_ populations of women 15-49 are virtually the same population. This suggests that the TFR of 8.235 calculated for the _de jure_ population is probably almost identical to the TFR of the _de facto_ population. It must be stressed, however, that the _quality of the estimates derived by the reverse survival technique is dependent on the quality of the age data_. If too many persons were enumerated as being under 5 years of age, the fertility estimated by the reverse survival method is too high. Nevertheless, the correspondence between the results obtained by the Brass and reverse survival


Guadalcanal
MEDICAL SERVICES
1966
1972
RURAL GUADALCANAL
1966 1972
MAIN TOWN
10 9 Health Clinic
9 4 Maternal Child Health Clinic
1 0 Hospital
Data Sources: Kiers (1969), Chapman (1970), Macgregor (personal communication)

Figure 3.8

techniques seems unlikely to be coincidental.

Although the same techniques applied to the 1970 de facto population give somewhat different rates, they indicate that fertility has been increasing in the past few years.

The growth rates of 4.00% and 3.75% indicated for the de facto and de jure populations respectively, indicate that the population of the Weather Coast is likely to double in the next twenty years if substantial out-migration does not take place. The de jure growth rate is closer to the true growth rate as de facto growth is tied to how many persons visit the Weather Coast and what percentage of the Weather Coast population temporarily visits elsewhere. In the absence of substantial changes in visiting patterns, the long-range de facto growth rate will be about equal to the growth rate indicated by the 1970 and 1972 de facto censuses. The de jure growth rate will probably reach 4% in the next few years but further increases will be small as mortality is unlikely to decline rapidly in the future and the birth rate appears to be so high now that it cannot increase greatly.

Medical Progress on the Weather Coast in the 1960's

In the 1960's, the infusion of medical technology into the Weather Coast accelerated greatly, partly because greater amounts of government money were available for medical purposes. The amount spent by the Medical Department rose from $A404,924 in 1964 to $A1,047,620 in 1970 (BSIP-MD, 1969:9; BSIP, 1970:63; Fig. 3.8). Improvements in technology were also beneficial. In addition concern for the Weather Coast was manifest in the great amount of food and medical help sent to areas affected by the disastrous 1965 floods (Tedder, 1965). In earlier periods, a disaster of this magnitude would probably have resulted in great loss of life from starvation and epidemics. However, there were no widespread epidemics in the wake of the 1965 flood, and the district commissioner was able to report three months afterwards that "in total area, health of people good (although) I was told that most of the old people died after the flood." (Osifelo, 1965:11)

In 1960, the expectation of life at birth on the Weather Coast proably did not exceed 40 years, in spite of the medical advances of the 1950's. The main reasons for this relatively low expectation of life were malaria, tuberculosis, and infectious diseases such as whooping cough and influenza. A flu epidemic in 1961 killed a reported 18 persons in East Talise alone (Layng, 1961:7), which represents a death rate of more than 10 per 1,000. However, this was the last severe epidemic to be mentioned in Weather Coast tour reports.

The single government program that contributed most to reduced mortality was the malaria eradication program. Before its implementation, malaria undoubtedly caused the largest number of direct and indirect deaths on the Weather Coast. Spraying of all houses and other structures with DDT was carried out on the Weather Coast in November, 1962, August, 1963, January, 1964, and every 6 months thereafter. In Guadalcanal as a whole, whereas the parasite infection rate for Guadalcanal immediately before spraying was 30.0% of the population, following the first spraying, it declined to 11.6%, and after the second to 4.1% (Chen, 1969). In the 0-1 age group, the infection rate declined from 61.9% to .6%. Most of the infection still existing after the second spraying was concentrated in northern Guadalcanal (Cehn, 1969). In 1969, a survey of the bush and Weather Coast areas of Guadalcanal indicated few occurrences of malaria-bearing mosquitoes (BSIP, 1970:56), and by 1970, malaria had ceased to be a serious medical problem.

The yaws campaign of 1957 appears to have eliminated yaws as a serious problem, although in 1962, there were a number of reports of yaws in the Talise subdistrict. In response, a doctor examined 2,338 persons on the Weather Coast in March, 1963 and

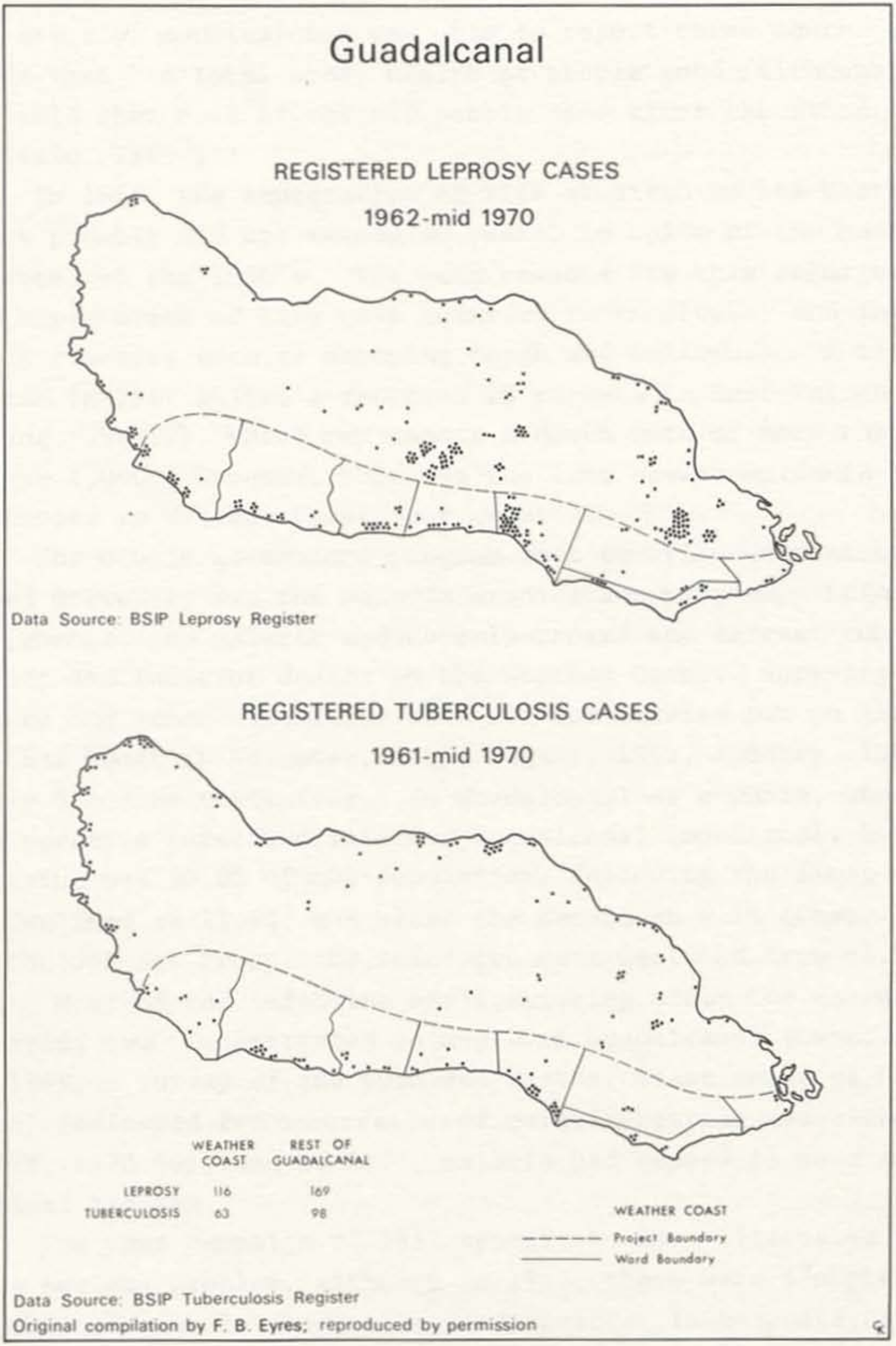
Guadalcanal
REGISTERED LEPROSY CASES
1962-mid 1970
Data Source: BSIP Leprosy Register
REGISTERED TUBERCULOSIS CASES
1961-mid 1970
WEATHER COAST
REST OF GUADALCANAL
LEPROSY 116 169
TUBERCULOSIS 63 98
WEATHER COAST
Project Boundary
Ward Boundary
Data Source: BSIP Tuberculosis Register
Original compilation by F. B. Eyres; reproduced by permission

Figure 3.9

reported that "no further residual yaws cases (other than 16 cases originally reported in Talise) found. I am confident that residual yaws foci on S. Guadalcanal has been completely eliminated" (BSIP-MD, 1963, March 25:2). A doctor touring the Weather Coast in 1966 found 5 infectious yaws cases in Malagheti, but no cases elsewhere (BSIP-MD, 1966). Anti-yaws injections given to persons born after the 1957 yaws campaign have prevented further outbreaks of the disease.

Less progress has been made in eradicating tuberculosis. In the B.S.I.P. annual reports during the 1960's, it was continually stressed that tuberculosis was the second major health problem, but that no major attack was being made because most of the resources of the Medical Department were mobilized against malaria. Nevertheless, efforts were made to find and provide treatment for tuberculoid persons. Between 1961 and 1970, 63 persons on the Weather Coast, representing about 1 percent of the population were classified as tuberculoid (Fig. 3.9) and presumably received treatment. About 39% of the Guadalcanal cases came from the Weather Coast, a share not greatly in excess of its share of the Guadalcanal population.[9] However, it is probable that only a small share of the tuberculoid cases on the Weather Coast were detected. B.C.G. vaccinations against tuberculosis were administered in many areas but it is not known whether the Weather Coast was included. In 1970, tuberculosis was the last serious infectious disease on the Weather Coast that was not effectively controlled. In 1972, the Medical Department stated that the commitment to the malaria eradication program "precludes the development of a major tuberculosis control program for some little time to come" (BSIP, 1972:71).

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[9] Calculation derived from maps made available by Dr. Brian Eyres, B.S.I.P. Medical Department.

Leprosy remains a problem on the Weather Coast with 117 cases of diagnosed leprosy recorded, between 1962 and 1970, or some 40.3% of the total for Guadalcanal (Fig. 3.9). Medical examinations on the Weather Coast in this period indicated 174 persons with certain or probable leprosy and 125 persons with possible leprosy. Thus, some 4% of the population had at least "possible leprosy". This high percentage is not out of proportion with the numbers for all Guadalcanal. While the bush area just north of the Weather Coast (especially in Tetekanji) was heavily afflicted with leprosy, it does not appear to have been primarily a bush problem on the Weather Coast. In the Protectorate as a whole the incidence of new cases dropped by over 60% between 1965 and 1972, although no figures are available for the Weather Coast. Dramatic improvements in treatment have greatly reduced the severity and infectiousness of leprosy attacks.

The government has administered the polio and triple (whooping cough, diptheria and tetanus) vaccines to children free of charge, but for many years monetary considerations precluded administering them on a mass basis. However, beginning 1968, a massive immunization campaign was carried out in Central District, which contained about 50,000 persons in 1970. In 1968, 4199 persons were given polio vaccine, and 1964 received "triple antigen" (BSIP-MD, 1968:39). In 1969, the numbers were 14,005 and 7,472 respectively. If the Weather Coast was included, the improvements in health and mortality would have been substantial as whooping cough and polio were serious problems there even in the 1960's.

Several maternity health centers and rural health clinics were established on the Weather Coast in the 1960s, and the AvuAvu hospital was completed in 1961. A school health service was initiated in the early 60's, and by 1964 was evaluated as successful where it was operative (BSIP, 1969:4). It was hoped that the service could be extended to all schools by 1967. Government propaganda on maintaining good health, and village regulations intended to improve sanitation, undoubtedly were also important factors in improvement, and medical reports in the late 1960's frequently allude to the generally good health conditions on the Weather Coast.

However, some of the population benefited more than others from medical improvements in the 60's. The registers of tuberculosis and leprosy cases give rough implications of variations in health conditions, assuming equal efforts to find cases were made in all areas. Table 3.41 reports the incidence of cases found between 1961 and 1970 per 100 persons of the 1965 population of each subdistrict.

Table 3.41

RECORDED CASES OF LEPROSY AND TUBERCULOSIS

	Known and Probable Cases of Leprosy	Possible Cases of Leprosy	Registered Cases of Leprosy	Registered Tuberculosis
Wanderer Bay	5.4	2.8	1.7	.9
Duidui	2.2	1.6	1.1	.7
Vatukulau	1.4	1.1	1.3	.8
Talise	.8	1.3	.9	.5
AvuAvu[a]	7.2	4.5	6.8	2.5
Moli	.5	.3	.5	.3
Tetekanji	4.2	2.5	1.9	.8
Marau	1.5	2.3	.8	.8
Total Weather Coast	2.5	1.8	1.7	.9

[a] 1965 population of AvuAvu estimated to be 600

AvuAvu appears to be extremely unhealthy, in spite of having a hospital, with 6 cases of tuberculosis reported even though it contains only a mission, hospital, and school. Likewise, the large number of leprosy cases reported in Longgu village is unusual. However, in 1966 a doctor visited Longgu and stated that it was "surprising to find such squalor within easy reach of AvuAvu" (hospital) and suggested that a person be stationed there to improve hygiene of the area and make "very real contribution to the root cause of the high incidence of leprosy" (Thomas, 1966:10).

Very low rates in all categories were recorded for Moli, although a 1969 report specified Moli and Tetekanji as the areas on the Weather Coast in desperate need of a rural health clinic (Guadalcanal Health Service, 1969). Perhaps the lack of cases reported in Moli was linked to the absence of a nearby health clinic and the greater number of cases at AvuAvu to the presence of the hospital. Although the reported leprosy rate in Weather Coast Tetekanji is fairly high, it is far below that of Tetekanji, north of the Weather Coast, whose residents had much easier access to medical facilities. The indicated high leprosy rate in Wanderer Bay is not surprising, yet very few leprosy cases are reported in the Tina Valley, which has long been noted as a leprosy endemic area. It appears that the data indicate more about deficiencies in data collection than areal patterns of disease incidence.

Because of medical improvements, the average expectancy of life at birth on the Weather Coast rose from about 40 years in 1960 to somewhere in the neighborhood of 55 years in 1970, and possibly as high as 60 years by 1972. Life expectancy may be increased still further when the government makes a concerted effort to reduce the incidence of tuberculosis. Beyond that, further improvements in life expectancy will come more slowly.

Reasons for Increasing Fertility on the Weather Coast

The available census data indicate that the birth rate on the Weather Coast has been increasing, as has been found in other Melanesian societies, for reasons which are not well understood. Studies of Melanesian populations have not only demonstrated rising fertility in the past two decades, but have inferred changing social attitudes leading to higher fertility.

Ogan, Nash and Mitchell (n.d.) studied the Nasioi and Nagovisi populations in Bougainville. The Nasioi had been subject to Western acculturation for so long that traditional fertility patterns were difficult to reconstruct. However, it was deduced that the pre-contact Nasioi practised a postpartum taboo of at least two years, breast feeding until the infant was four years of age, and the prohibition of remarriage for widows until a feast was given for the clansmen of deceased spouses. Birth intervals were probably three to four years (Ogan, et.al, n.d.) and infanticide may also have been common.

Traditional attitudes have been greatly modified by European influences, especially the Catholic Church to which most of the Nasioi belong. A postpartum taboo of 15 months is now the stated norm, and infanticide, abortion and contraception are prohibited by the Church. The church strongly encourages large families and church personnel take responsibility for raising orphaned or sick children. Whilst infant and maternal welfare clinics have greatly improved the health of children, they have undermined beliefs that widely spaced children were more likely to survive. In addition, for political reasons, the Nasioi desire rapid growth. Because of these factors, the mean interval between births was only 2.75 years in the period 1965-1969 (Ogan, et.al, n.d.)

The Nagovisi have been exposed to European influences only since the mid 1920's, and tribal warfare did not cease until the 1930's. This society was characterized by an exceptionally long postpartum taboo because it was believed that a father should not have to carry two children in the event of an attack. Births were spaced four to seven years apart (Ogan et.al, n.d.) and infanticide was common. During World War II, many infants were killed because the war conditions prevented proper care of infants.

Amongst the Nagovisi, the drop in the spacing of births from about 5 years between 1925 and 1944, to 2.68 years between 1965 and 1972 (Ogan et.al, n.d.) is dramatic. As with the Nasioi, this drop is linked with the influences of the Catholic Church, political considerations, and the establishment of infant and maternal welfare clinics. Sanctions against women spacing births very closely are no longer practised. In addition, whereas the temporary migration of men to European plantations once kept men away from women for long periods of time, the introduction of cash cropping has eliminated the need to earn cash outside the villages. Some persons told the authors that "having children very close to each other began with the cocoa" (Quoted in Ogan et al, n.d.).

Ring and Scragg (1973:91) studied changing fertility of several societies in New Ireland, Buka, and the Lower Ramu Valley in New Guinea. The Buka, the most acculturated of the societies studied, were characterized by rising fertility and declining ages at first birth, with a total fertility rate of 7.130 in 1952-7, and 8.680 in 1962-7. The mean birth interval was 2.42 years. This very high fertility is associated with the complete abandonment of the former 2-3 year postpartum taboo, and again, the factors of improved health of children, the influence of the Catholic Church, and political considerations are associated with the changes. The introduction of bottled and powdered milk has reduced the negative effect of lactation upon fertility. The "Welfare Society", which politically dominates the villages studied, stresses the duty of every woman to have as many children as possible, and even encourages the women to engage in early, unstable, sexual unions to achieve this end.

The total fertility rate in the New Ireland areas studied (Ring and Scragg, 1973) increased from 2.355 between 1947 and 1952 to 5.355 between 1962 and 1967. Here the change is strongly linked to medical programs that reduced the incidence of gonorrhea. Although depopulation had previously been great, family size is considered an individual matter, and there are no community sanctions for large families. Some women have begun to use intrauterine contraceptives, a practice not discouraged by the locally predominant Methodist Church. The average age of marriage for women appears to be increasing because of increasing concern that women get educational and vocational training before marriage. However, European influences and medicine have undermined traditional fertility practices, causing mixed effects of European contact on New Ireland fertility.

As the Rao have been completely isolated until very recently, their traditional norms on fertility control were still intact. Ring and Scragg (1973) believe that fertility is now starting to increase because the local Catholic Church and the government are discouraging many traditional practices, especially abortion and infanticide.

The 1972 Weather Coast fertility survey yielded information on changing fertility amongst respondents in the Koloula Valley and the Makaruka area. It was found that women over 45 years of age married at an average age of 21.6 years, but the corresponding figure for women under 30 years of age was 19.0. The average woman was 21 years of age at the birth of her first child. However, the median age at first birth for women under 30 years was 19 years, whereas the median age at first birth for women over 40 years was 23 years. The traditional postpartum taboo appears to have been between two and four years, but the common contemporary practice seems to be to abstain from sexual relations for 6 months to a year and a half after the birth of a child.

In the Makaruka area, it was found that the mean desired birth interval for those receiving some education was 2.48 years, whereas the comparable figure for those with no education was 3.03 years. The educated respondents questioned the health rationale for the postpartum taboo. In addition, it appears that education has a negative effect on mean age of marriage, as women with education had children at younger ages than women with no education.

Variables Related to Fertility

The 1972 census data permit the measurement of the correlation of various variables with fertility. The influences on fertility of marital status, coastal or bush affiliation and schooling were tested for the 1972 de jure population.

Female virginity before marriage is a nominal norm in Weather Coast society, although sanctions against women engaging in premarital sex relations are rarely applied. Women in stable marital unions are likely to experience frequent sexual relations, whereas divorce and deaths of spouses reduce exposure to childbearing. The number of children reported ever born varies greatly according to marital status.

Table 3.42

REPORTED CHILDREN EVER BORN AMONG NEVER MARRIED, MARRIED, WIDOWED AND DIVORCED MELANESIAN DE JURE WEATHER COAST WOMEN, 1972

	Never Married		Married		Widowed		Divorced	
Age of Women	Number	Average Children Born	Number	Average Children Born	Number	Average Children Born	Number	Average Children Born
15-19	234	.077	28	.723	2	.500	4	.75
20-24	90	.311	192	1.950	4	1.250	3	1.000
25-29	21	1.238	422	3.184	14	1.929	4	1.000
30-34	22	2.364	515	4.687	17	2.750	7	3.000
35-39	5	3.000	414	5.716	13	3.076	7	3.285
40-44	7	1.514	342	6.210	15	3.933	2	2.500
45-49	2	4.500	340	6.035	21	4.857	3	2.000
50-54	1	1.000	201	6.059	28	4.250	1	3.000

While marital status has the expected effect on fertility, almost everyone above age 25 is married. Therefore, of the options for changing marital status, only that of marrying females at an earlier age would greatly affect fertility. The low fertilities of divorced women are significant, for many are childless. Perhaps persons who are unsuited for marriage predominate among the divorced in the 1972 census, or some women were divorced because of their childlessness.

The total fertility rate of married women as indicated by the Brass method is shown in Table 3.43. The TFR in theory shows the number of children an average women would bear if she married at age 15.

Table 3.43

ESTIMATED FERTILITY RATES OF DE JURE WOMEN AGED 15-49

Age		15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
Age Specific Fertility (births per year)	All	.118	.293	.359	.338	.301	.169	.087	8.325
	Married	.313	.345	.387	.353	.309	.183	.092	9.910

These are not births per married year, because many married women were not married the entire 12 months and therefore were presumably exposed to fewer chances of childbearing. Many persons in the 15-19 age group, but only a few women 30 years of age, had not been married the entire 12 months prior to the census. Most married women in the 15-19 age group were 18 or 19 years of age and the indicated total fertility of 9.910 for women marrying before age 15 appears to be realistic. However, it is doubtful that early marriage will become the norm in Weather Coast society in the near future. The indicated TFR of 8.345 if everyone had children in marriage and married at exact age twenty may be slightly too low as some of the married women in the sample have had previous marriages terminated by divorce or death of spouse, or were married for the first time within the previous twelve months.

Nevertheless, the increase in fertility resulting from universal marriage of females at age 19, and no interruptions resulting from divorce or death of spouse, would be perhaps .5 children per childbearing span, which is quite small.

Education may play a large role in increasing fertility in the future. Schools were slow in coming to the Weather Coast and according to 1972 census data, only 56.3% of females 15-19 years of age had any schooling at all, while only 9.6% had the equivalent of a 7th grade education. The percentages decrease rapidly for the older age groups. Groenewegen (1972; 89) in analyzing the 1970 census data, commented that the proportion on the Weather Coast who had a standard 7 education was below even that of educationally deficient Malaita residents. However the educational facilities on the Weather Coast are expanding and the next generation may have somewhat more formal education than the present one.

However, if age is taken into account, it may be found that age, not education, is highly related to fertility changes.

The data on children ever born to women with some formal education and no formal education does not appear to be significant when the influence of age is controlled (Table 3.44)

The apparent lack of difference between the number of children born to those with some education and those with no education is especially significant, as one would expect women with some education to better remember children born. The rapidly declining percentage of women with formal education with increasing age graphically illustrates the paucity of educational opportunity in earlier times.

The data on age at first birth, by education, also does not reveal marked differences when the influence of age is controlled.

Table 3.44

NUMBER OF CHILDREN REPORTED EVER BORN TO DE JURE WEATHER COAST WOMEN WITH NO FORMAL EDUCATION AND WITH SOME FORMAL EDUCATION, BY AGE GROUPS, 1972

Age of Women	No. with no Education	No. with Some Education	Reported Average Number of Children Born No Education	Some Education
15-19	138	170	.283	.318
20-24	137	156	1.591	1.237
25-29	167	117	3.024	2.854
30-34	201	74	4.443	4.419
35-39	143	36	5.573	5.611
40-44	108	32	5.759	6.000
45-49	107	26	5.748	5.654
50-54	79	18	5.316	6.333
55-59	49	16	5.143	5.125
60-64	72	4	5.111	4.000
65-69	30	4	4.316	4.250
70-74	40	2	5.625	2.000
75+	49	4	4.898	2.250

Table 3.45 suggests two significant relationships. The limited sample of women who received at least a Standard 7 education began childbearing at later ages than other women. Higher education seems to raise the age when childbearing begins to take place, in that women receiving higher education may delay marriage in order to take temporary clerical employment in Honiara. The data indicate that proportions of women having begun childbearing by given ages are positively correlated with education.

Insofar as education may encourage a standard age of marriage, it may affect fertility, although the 1972 census data, do not allow such inferences to be made with any certainty.

Table 3.45

PERCENTAGE OF WOMEN WITH CHILDREN EVER BORN, CHILDREN BORN BEFORE AGE 25, AND MEDIAN AGE AT FIRST CHILDBIRTH BY EDUCATION AND AGE, MELANESIAN DE JURE WEATHER COAST FEMALES, 1972

Age Group	Education	No. in Group	% With Children Born	% Having Children Before Age 25	Median Age at First Childbirth
15-19	0	150	24.7	24.7	17.4
	1-3	77	26.0	26.0	17.4
	4-6	72	27.8	27.8	17.7
	7+	33	6.0	6.0	18.0
20-24	0	151	68.2	68.2	18.7
	1-3	63	71.4	71.4	19.6
	4-6	50	68.0	68.0	19.7
	7+	21	38.1	38.1	20.5
25-29	0	171	88.3	76.0	20.2
	1-3	62	88.7	80.6	21.2
	4-6	37	91.9	86.5	22.0
	7+	7	57.1	42.8	24.5
30-34	0	210	92.9	78.6	20.4
	1-3	43	93.0	79.1	21.1
	4-6	15	86.7	80.0	20.5
	7+	5	60.0	20.0	Over 25
35-39	0	152	92.1	72.4	21.0
	1+	27	93.1	79.3	20.8
40-44	0	115	91.3	63.5	20.5
	1+	26	92.3	80.7	19.5
45-49	0	113	91.2	68.1	21.6
	1+	26	92.3	80.7	19.5
50-54	0	83	84.3	56.6	21.0
	1+	16	93.8	62.5	21.5
55-59	0	51	92.2	62.7	20.8
	1+	15	93.3	60.0	23.5
60-64[a]	0	74	85.1	63.5	22.6
65-69[a]	0	33	75.8	52.0	24.5

[a] Sample of educated women too small to yield meaningful data

Bush or coast residence may also be hypothesized to affect fertility, since bush residents are assumed to be more traditional in habits. If acculturation is associated with rising fertility, coast residents can be expected to have higher fertility.

Data on children born in the previous 12 months (Table 3.46) indicate that bush women start childbearing at earlier ages, but that within the 25-29 age group, coastal women have much higher fertility. The data also indicates a TFR that is similar in both groups.

Table 3.46

REPORTED AVERAGE NUMBER OF CHILDREN BORN IN THE PREVIOUS 12 MONTHS BY WOMEN OF COAST AND BUSH AFFILIATION, 1972 DE JURE MELANESIAN WEATHER COAST WOMEN

Age	15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
Coast	.108	.323	.449	.393	.357	.183	.103	9.580
Bush	.210	.365	.348	.391	.333	.243	.100	9.950

Since the reported number of children born in the past 12 months appears to be much too high, it is reasonable to ask whether bush and coast residents are reporting children in the past 12 months from the same time perspective. Reports on the number of children ever born give some indication of present and past fertility, and indicate starting differences between coast and bush residents at given age groups, but give no indication that the overall fertility of one group is appreciably higher than that of the other.

Table 3.47 appears to indicate that bush women start having children at an earlier age than coast women, which appears to contradict the theory that acculturation leads to earlier age of marriage. However, the coast and bush populations are not homogeneous entities, and have quite different customs and religion. Early marriage among the bush Birao was the norm in pre-contact

Table 3.47

REPORTED AVERAGE NUMBER OF CHILDREN EVER BORN BY AGE AND RESIDENCE, MELANESIAN DE JURE WOMEN, 1972

	Average Number of Children Ever Born									
Age	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-
Coast	.238	1.313	3.041	4.360	5.581	5.846	5.773	5.302	4.739	4.[illegible]
Bush	.380	1.170	2.793	4.413	4.980	5.675	5.425	5.857	6.200	4.[illegible]

times. Similarly, the coastal Marau have always had a social organization quite distinct from other Weather Coast coastal groups. Hence, the data in Tables 3.46 and 3.47 represent averages from very heterogeneous groups. Marked differences may be due to differential components in the different age groups, differential effects of age misreporting, differential abilities to remember children born, or very basic differences between coastal and bush populations as a whole in fertility behavior.

While the reasons for the upsurge in many Melanesian populations are not well understood, several factors that have encouraged the increase in fertility may be inferred. Improvements in medical care and nutrition have facilitated fecundity, while the obviously improved health of contemporary children has undermined traditional rationales for the postpartum taboo. The virtual abolition of polygamy and institutionalized prostitution has made the postpartum taboo more onerous for males. The food shortages of pre-contact times no longer plague Weather Coast residents. The churches have been influential in undermining the rationales for the postpartum taboo and have vigorously and successfully opposed abortion and infanticide. The beginnings of cash cropping on the Weather Coast reduce the need to seek temporary employment away from one's village and thus reduce sexual abstinence due to the temporary absence of the spouse. In addition, whereas many single men used to delay marriage until returning from plantation labor, more men stay in the village and have no reasons to delay marriage for that reason.

The Weather Coast survey did reveal strong opposition to any form of birth control among the Ko'o but considerably more flexible attitudes among the much more populous Birao. Although other groups were not surveyed it appears that any attempt to promote birth control would not meet with violent opposition, such as could be expected in the pro-natalist societies studied by Ring and Scragg (1973) and Ogan, Nash, and Mitchell (n.d.). Even so, it is unlikely that effective birth control will be practised in the near future as land is now plentiful, and the residents are pleased at the growth of population, after prolonged depopulation.

Permanent Migration on the Weather Coast

Solomon Islanders are reputed to be especially attached to their home villages,[10] which are, indeed, the focal point of loyalty to almost all Melanesian adults living in the Protectorate. Village loyalty, notwithstanding, Weather Coast residents exhibit a high degree of temporary mobility (see following section), with permanent moves far less frequent. Nevertheless, Weather Coast residents do change locations for a variety of reasons, among which marriage is undoubtedly dominant. One's marriage partner must belong to a different moiety and the small size of many of the villages and hamlets usually precludes the possibility of finding a suitable mate in one's own village. It is usually the wife who moves to the village of the husband, rather than vice versa (See Chapman, 1969:127).

Sometimes entire villages move while still maintaining their identities, an example being the village of Chaunaroga in Duidui

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[10] Evidence for this comes from Bellam's (1964:147) survey of 120 Melanesian living in the capital city of Honiara. Only one person expressed a wish to remain permanently in Honiara. The rest preferred to return to their native villages at sometime in their lives.

which moved after an earthquake destroyed the original village. Natural disasters, unhealthy conditions, and even fear of "Vele" can cause such movements of entire villages. Serious disputes may result in the relocation of a substantial portion of a village. A headman with rising status attracts followers to his village, whereas when such a "big man" dies or is discredited his village may disperse. Government and missionary activities have resulted in the formation of villages larger than any that existed in pre-contact times, and in the movement of bush populations to the coast (See Bennett, 1974).

Individual moves (as opposed to family moves) appear to occur infrequently, but can be the source of great consternation, resulting in letters being sent to government officials requesting that long lost relatives be returned to their native villages. The introduction of wage labor offered individuals the chance to escape from their native villages, and the deportation of Melanesians from Queensland in 1904 caused much suffering among those who had no wish to return. Living in the main town, first Tulagi, and since the war, Honiara, offers an escape from village life, but there is no evidence that a substantial permanent Melanesian population is being formed in Honiara.

Research undertaken in 1972, (see Chapter 2) together with the project census, represent the first attempts to discern patterns of permanent movement for the Weather Coast as a whole. The key questions asked in the census were "Where were you born?" "In what village do you belong?" "Were you born in a bush or saltwater area?" "Do you claim bush or saltwater affiliation?" "Is the village where person now claims residence actually a bush or saltwater village?"

Table 3.48 indicates that permanent change of residence is rare by Euro-American standards. Nearly half of the <u>de jure</u> population (49.6%) were born in the present village of residence and fully 86.5 percent live in the same census division as they were born. Only 5.1 percent of the residents were born outside the Weather Coast.

Table 3.48

PLACE OF BIRTH OF DE JURE RESIDENTS IN THE DIFFERENT CENSUS DIVISIONS OF THE WEATHER COAST, 1972, BY PERCENTAGE OF TOTAL DE JURE POPULATION

Place of Residence	Own Village	Wanderer Bay	Duidui	Vatukulau	Talise	Avu Avu	Moli	Tetekanji	Marau	Honiara	Other Guadalcanal	Other Central District	Malaita	West District	East District	Out BSIP	Total Born in Own Census Division[a]
		Place of Birth															
Wanderer Bay	41.9	49.9	2.7	.2	0	.1	.1	0	0	.7	6.2	.2	.1	0	.2	.1	90.7
Duidui	50.1	1.2	43.2	1.0	.3	.1	.1	.06	0	1.6	.5	.1	.8	0	0	0	94.9
Vatukulau	47.6	.4	2.8	38.1	1.6	1.1	.4	0	0	3.3	1.4	.2	.7	0	0	.06	89.0
Talise	43.9	0	.1	3.4	41.8	3.0	2.1	0	.3	1.8	1.3	.3	0	.2	.1	.1	85.7
Avu Avu	32.9	.1	0	2.3	7.1	52.5	.9	.1	0	.1	2.4	0	.1	.3	0	.3	85.4
Moli	85.7	0	.2	1.0	.3	.3	8.6	1.7	.2	.2	.9	0	.2	.2	0	.1	94.3
Tetekanji	67.7	0	0	0	0	.2	1.6	11.0	0	0	19.2	0	0	0	0	0	78.7
Marau	20.5	.2	.2	0	3.7	0	7.7	2.6	35.4	5.5	15.0	.4	7.7	.7	0	.4	61.4

[a] Assuming persons born in Honiara are children of residents of indicated divisions.

However, there are differences between wards. An extremely high percentage of Moli residents and a fairly high percentage of Tetekanji residents report living in the village of birth.[11] In contrast, low percentages were recorded in Avu Avu, where mission influence may have resulted in some population shifts and especially in Marau, an area of inmigration. A large number of persons in Tetekanji were born north of the Weather Coast, which suggests that the central bush population is drifting into Weather Coast Tetekanji. However the census did not record persons born on the Weather Coast but living elsewhere. It appears that most came to Tetekanji for marriage reasons and that possibly an equal number left for the same reasons. Whereas the residents of Marau, Tetekanji and Wanderer Bay have language affinities with the persons north of them, other Weather Coast residents do not. This seems to imply the importance of language as a barrier to permanent migration. The large number of Malaita-born residents in Marau results from language and cultural affinities, in that Marau has traditionally been a place of refuge for persons experiencing difficulties in Malaita (Bennett, 1974). Only in the case of migration from Talise to Marau is there significant movement between non-contiguous wards. The slight migration indicated for Moli is significant in terms of the hundreds of visitors attracted each year by the Moro movement.

When only persons over 15 years of age are considered, the percentages born outside their present village rise considerably. The data in Table 3.49 indicate that only 10% of residents over 15 years of age in Marau were born in their present villages,

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[11] However, whereas over two-thirds of Tetekanji residents report living in the village of birth, Chapman (1970:100) found that only 36% of Pichahila's population were born in Pichahila. This may be explained by the fact that Pichahila village was not established until 1953 (Chapman, 1970:68-71).

Table 3.49

BIRTHPLACE OF DE JURE RESIDENTS OVER 15 YEARS OF AGE IN THE WEATHER COAST WARDS: BY PERCENTAGE

Division	Born in Own Village	Born in Own Census Division but Not Own Village	Born in Own Census Division	Born Elsewhere
Wanderer Bay	20.9	66.3	87.2	Duidui 4.4%, Other Weather Coast .5%, Other Guadalcanal 5.3%
Duidui	32.8	59.5	92.3	Wanderer Bay 2.1%, Vatukulau 1.5%, Othe Weather Coast 1.0%
Vatukulau	32.9	53.2	86.1	Duidui 5.1%, Talise 2.2%, Other Weather Coast 1.0%
Talise	30.6	57.2	87.8	Vatukulau 4.5%, Avu Avu 1.4%, Other Weather Coast 1.4%
Avu Avu	12.8	67.9	80.7	Talise 10.9%, Other Weather Coast 3.8%, Other Guadalcanal 3.3%
Moli	80.6	11.0	91.6	Tetekanji 3.0%, Other Weather Coast 2.8%
Tetekanji	57.3	11.0	67.3	Moli 1.9%, Avu Avu .5%, Non-Weather Coast Guadalcanal 29.8%
Marau	10.1	23.9	34.0	Moli 13.7%, Talise 7.1%, Tetekanji 5.1% Guadalcanal outside of Weather Coast 20.8%, Malaita 15.7%

while over 65 percent were born outside of Marau. This is a definite indication of extensive migration into Marau in the past. By contrast, fully 81.8 percent of the residents under 15 years of age were born in Marau. The extremely low percentage of those over 15 in Avu Avu who are in the village of birth indicates extensive village shifts in the past. Indeed, few villages enumerated in the 1931 census still exist today. The high percentage of Moli residents over age 15 who were born in the present village of residenceis unusual as marriages usually occur between partners from different villages. Either Moli is an exception to this pattern, or the data are inaccurate. In Wanderer Bay, surprisingly, 7.1% of residents under 15 years of age were born north of the Weather Coast, compared to only 5.3% of residents over 15 years of age. Either the data are inaccurate or migration is presently occurring and is composed of a high percentage of children. In contrast, 29.8 percent of those over 15 in Tetekanji, but only 7.7 percent of those under 15 were born elsewhere. In Talise, no one over age 15, but 2.7% of those under 15 were born in Moli. It appears that these persons may have been born to Talise residents visiting Moli for Moro activities.

Table 3.50 gives some indication of whether women move more frequently than men for marriage. If such is indeed the case, more men than women should have been born in their present village, and more women than men should have been born inside the present census division. This is true in Wanderer Bay, Duidui, Vatukulau, Moli, and Marau, but the opposite holds in Talise and Avu Avu. In Tetekanji, the percentages of men and women born in their present villages are virtually equal, but far more women than men were born outside of Tetekanji. This suggests that most short marriage-related moves are undertaken by men, but that most long-term marriage-related moves are undertaken by women. The available evidence suggest that generally more females than males move for marriage related reasons, but that patterns are complex.

Table 3.50

PERCENTAGE OF PERSONS OVER 15 YEARS OF AGE LIVING IN THE SAME VILLAGE AND THE SAME CENSUS DIVISION, BY SEX

Division	Born in Own Village Male	Born in Own Village Female	Born Elsewhere in Same Census Division Male	Born Elsewhere in Same Census Division Female	Born in Same Census Division Male	Born in Same Census Division Female	Born Outside of Census Division Male	Born Outside of Census Division Female
Wanderer Bay	23.3	18.3	64.3	68.4	87.6	86.7	12.4	13.3
Duidui	37.0	27.8	55.6	64.0	92.6	91.8	7.4	8.2
Vatukulau	36.2	29.9	53.6	52.7	89.8	82.6	10.2[a]	17.4[a]
Talise	30.1	31.7	57.6	56.7	87.7	88.4	12.3	11.6
Avu Avu	9.8	16.0	69.9	65.7	79.7	81.7	20.3	18.3
Moli	82.3	78.9	10.6	11.4	92.9	90.3	7.1	9.7
Tetekanji	57.7	57.0	13.5	8.4	71.2	65.4	28.8	34.6
Marau	14.2	5.8	22.4	23.9	36.6	29.7	63.4	70.3

[a] 29 women and 11 men from Duidui

Table 3.51 shows the present location of persons born in different census divisions, but there is no way of ascertaining how many persons born on the Weather Coast have moved permanently to areas outside it. Thus, the low number of residents in Wanderer Bay and Marau who migrated to other areas on the Weather Coast may be explained by large numbers who migrated to areas

Table 3.51

PERCENT RESIDENCE OF THOSE BORN IN DIFFERENT CENSUS DIVISION: BY PERCENTAGE

Living In	Born In: Wanderer Bay	Duidui	Vatukulau	Talise	Avu Avu	Moli	Tetekanji	Marau
Wanderer Bay	92.4	2.0	.1	0	0	.1	0	0
Duidui	1.9	94.9	1.3	.6	.3	.2	.2	0
Vatukulau	.6	2.8	94.3	2.8	2.4	.5	0	0
Talise	0	.08	2.2	87.8	3.2	1.3	0	.9
Avu Avu	.1	0	1.2	6.1	93.5	.6	.2	0
Moli	0	.2	.9	.3	.4	93.1	5.3	1.9
Tetekanji	0	0	0	0	.1	.6	90.2	0
Marau	0	.08	0	2.4	0	3.7	4.0	98.4

north of the Weather Coast. However, Marau and Wanderer Bay undoubtedly have easier access to sea transport to Honiara (and therefore cash) than the other Weather Coast wards. The two "poorest wards (Talise and Tetekanji) contain the largest percentages of persons who have left. Only a small fraction of residents appear to move permanently across ward boundaries.

The reported native languages of de jure residents give some indication of their unwillingness to cross language boundaries. It may be assumed that most inter-ward moves do not cross language boundaries. The 1972 census data indicated nine basic language groups on the Weather Coast (See Chapman, 1970:31). Table 3.52 indicates few persons in census divisions claiming own languages not traditionally found in the census divisions.

Table 3.52

PERCENTAGE OF DE JURE RESIDENTS IN CENSUS DIVISIONS SPEAKING LANGUAGES NOT TRADITIONALLY SPOKEN IN CENSUS DIVISIONS

Census Division	Percent Speaking Languages Not Traditionally Found in Census Divisions: Leading Languages in Parentheses	Percent Born Outsi[de] of Census Divisio[n]
Wanderer Bay	3.1 (Poleo 1.5%, Ko'o 1.2%)	9.3
Duidui	1.7 (Ghari .7%)	5.1
Vatukulau	2.7 (Tolo .9%, Poleo .7%)	11.0
Talise	1.6 (Listed "Other" 1.5%)	14.3
Avu Avu	4.3 (Malango 1.5%, Vatukulau 1.2% "Other" 1.6%)	14.6
Moli	1.8 (Malagheti .7%)	6.7
Tetekanji	.2[a] (Moli .2%)	21.3
Marau	19.5 (Talise 9.3%, Moli 7.0%)	38.6

[a] 73 listed as speaking Moli, but 72 of those persons were counted in Na Homba which should have been assigned to Moli.

Although many persons conceivably switched languages after moving, the percentage speaking Poleo and Ko'o in Wanderer Bay exactly equals the percentage born in Duidui. However, the percentage speaking Talise in Marau far exceeds the percentage born in Talise. Both the immigrants (most of whom moved about 1935) and their offspring appear to be speaking Talise. Indeed, more than a quarter of all Talise speakers reside in Marau.[12] The data indicate that few migrants switch own language allegiances. Thus, Table 3.52 probably fairly accurately portrays the numbers migrating across language boundaries.

Only 17 on the Weather Coast claim to be Malango speakers (11 in Avu Avu), although Malango speakers number over 1,500 and border Duidui, Vatukulau, Talise, and Avu Avu. Bellam (1969:12) claims that the Malango have strong links to "Talise" (i.e., Duidui, Vatukulau, and Talise) but not to the Tasimboko and Visale on the north coast. Indeed data presented in the next section

Table 3.53

NUMBER OF PERSONS BORN IN A CENSUS DIVISION DIFFERENT FROM THE PRESENT CENSUS DIVISION: DE JURE POPULATION

Census Division	Born Elsewhere Living in Census Division	Born in Census Division Living Elsewhere	Net Change Due to Migration	Percent Change in Population Due to Migration
Wanderer Bay	38	31	+ 7	+ .5
Duidui	50	88	-38	-2.1
Vatukulau	102	79	+23	+1.5
Talise	71	106	-35	-3.9
Avu Avu	79	44	+35	+4.8
Moli	42	82	-40	-3.4
Tetekanji	8	37	-29	-6.7
Marau	82	5	+77	+13.5
TOTAL	472	472	0	0

12 Talise residents originally worked for the S.D.A. mission in Kopiu Bay, found plenty of land available, and encouraged other Talise S.D.A. members to migrate to Marau. Hence, language and religious factors stimulated the longest mass migration to occur on the Weather Coast in recent times.

will demonstrate that the Malango are extremely active in the Moro movement, although language and physical barriers appear to have kept their migration to the Weather Coast to a minimum.

The 1972 census data indicate that 472 persons born on the Weather Coast live in a division different from which they were born. See Table 3.53.

Marau shows a large net immigration, and Talise and Tetekanji show a large net outmigration, as was expected. However, the large net outmigration indicated for Moli and the large net immigration indicated for Avu Avu are difficult to explain, because the censuses since 1945 indicate rapid growth and because the Moro movement might be expected to attract some permanent residents.

That the eastern half of the Weather Coast is growing faster than the western part, is supported by census data which indicate that of the 472 moves across division lines, 290 moves were eastward whereas only 182 moves were westward. Thus there appears to be a definite shift toward the less populous eastern areas.

There is no way of ascertaining how many persons in central and northern Guadalcanal were born on the Weather Coast, but if economic opportunities are remotely correlated with migration, the flow from the Weather Coast is likely to have been far greater than the flow in. The marked deficiency of males in the 20-29 age group indicates either an underenumeration of males temporarily away from the village or permanent migration from the Weather Coast. Although it is known that some persons migrate permanently from the Weather Coast, it is difficult to ascertain the absolute numbers involved. Bellam (1968:41) reports that former Talise residents have settled on the North Guadalcanal Plain, either as individuals or in small groups. The actual magnitude of the population flow from the Weather Coast to the rest of Guadalcanal can be determined only by a detailed census of the entire island.

The inference that there has been a net flow of residents from bush to coastal areas was tested on the basis of census questions on place of birth, place of residence, and claimed affiliation. Table 3.54 confirms that a substantial shift of this nature has occurred.

Table 3.54

PLACE OF BIRTH BY PRESENT LOCATION OF MELANESIAN DE JURE POPULATION BY CENSUS DIVISION

us Division	Percent Born Bush Living On the Coast	Percent Born On the Coast Living in the Bush	Percent Born Bush	Percent Living in Bush	Number Shifting From the Bush to the Coast	Number of Persons for Whom Place of Birth Cannot be Ascertaine
erer Bay	21.6	16.4	39.7	41.0	- 16	51
ui	37.3	7.0	28.8	23.0	+101	35
kulau	11.0	4.5	33.1	32.4	+ 10	20
se	53.2	4.3	30.3	17.1	+114	22
Avu	8.5	8.8	53.4	53.0	+ 3	18
	100.0	0.0	12.0	0.0	+135	59
anji	0.0	100.0	99.1	100.0	- 3	10
	64.8	.6	9.9	4.0	+ 32	22
er Coast	25.1	5.8	33.6	29.0	+375	237

Duidui and Talise show population shifts from bush to coastal locations. However, 1931-1972 census data indicate that the bush population of Wanderer Bay has been increasing more rapidly than the general population. Only very modest shifts from bush to coastal areas occurred in Avu Avu and Vatukulau although the 1931-1972 census data indicate a stagnation in the Vatukulau bush population and a marked decline in the Avu Avu bush population, since most Avu Avu bush settlements enumerated in 1931 no longer exist. While Avu Avu mission policy did not emphasize coastal resettlement, rapid growth occurred at Longgu, and Haimarao was formed, although portions of the latter were beginning to scatter into the peripheral bush at the time of the 1972 census. The 135 persons in Moli who claim to have been born in bush villages suggest a substantial migration into Moli, which (as defined by the

1972 census, which omitted Na Homba) has not contained a bush settlement since at least as early as 1931. Yet, census data indicate very little immigration into Moli.

The data in Table 3.55 indicate that the shift from claimed bush births to coastal affiliation is much smaller than the shift from claimed bush birth to coastal residence.

Table 3.55

PLACE OF BIRTH BY AFFILIATION, WEATHER COAST DE JURE POPULATION 1972

Division	Percent Born Bush Claiming Coast	Percent Born Coast Claiming Bush	Percent Born Bush	Percent Claiming Bush Affiliation	Shift in Allegiance From Bush to Coast	Number for Whom Information Cannot be Obtained
Wanderer Bay	9.4	11.1	39.7	40.8	- 15	55
Duidui	33.4	5.8	28.8	23.3	+ 96	44
Vatukulau	4.0	5.0	33.1	34.4	- 30	25
Talise	48.7	4.5	30.3	18.3	+101	29
Avu Avu	1.5	7.7	53.4	55.6	- 20	30
Moli	16.3	.4	12.0	10.4	+ 18	67
Tetekanji	.2	75.0	99.1	99.3	- 2	11
Marau	57.4	.8	9.9	4.9	+ 27	24
Weather Coast	15.7	4.7	33.6	31.3	+175	286

A cursory comparison of Tables 3.54 and 3.55 indicates that change of allegiance is slower than claimed place of residence, especially in Wanderer Bay, where there have been significant population shifts in both directions. When shifts in allegiances are considered, Vatukulau and Avu Avu appear to have gained bush adherents. However, except for Moli, differences in shifts of allegiance, as against shifts of residence are minor. Despite the fact that all Moli villages are coastal, 120 persons there claimed bush affiliation. Of 1,007 in Moli who claim to have been born in the present village of residence, 119 claim bush affiliation, whereas none of the 102 who claim to have been born in other areas of Moli claim bush residence. It is possible that some were born in villages that changed location but kept the same identity, since respondents were not asked to specify the census division of the village of birth if it was the same as the village of residence. Historically, the Birao appear to have been gravitating from Tetekanji to the Sangasere area of Moli. It is also possible that many Moli residents are descendants of Birao who settled in Moli several generations ago.

A look at location of birth, present residence and affiliation (Table 3.56) indicates that persons who have not changed their claimed residence have little conflict about where their loyalties are.

Table 3.56

BIRTHPLACE VS. PRESENT RESIDENCE VS. AFFILIATION OF DE JURE WEATHER COAST RESIDENTS

Total Born in Bush	2733		Total Born on Coast	5408	
-Born in Bush, Living in Bush	2040		-Born on Coast, Living on Coast	5055	
-Claim Bush Affiliation	1988	97.5%	-Claim Coast Affiliation	5007	99.1%
-Claim Coast Affiliation	52	2.5%	-Claim Bush Affiliation	48	.9%
Total Born in Bush but Living on Coast	690		Total Born on Coast but Living in Bush	315	
-Claim Bush Affiliation	312	45.2%	-Claim Coast Affiliation	108	34.3%
-Claim Coast Affiliation	378	54.8%	-Claim Bush Affiliation	207	65.7%

Of the 52 born in the bush living in the bush, and claiming coast affiliation, 39 are found in Duidui. If the attitudes about bush persons expressed by Duidui village residents and by the Duidui village headman to Chapman (1970) are typical, there is strong pressure to deny bush affiliation. However, many persons who claim an affiliation different from both place of birth and residence may have lived for a considerable time in the area of affiliation. This possibility receives some support, in that out of 48 persons who were born on the coast, live on the coast, and claim bush affiliation, 21 also live in Duidui.

The data suggest that people change affiliation much more slowly than they change place of residence, especially those who claim to have been born in the bush. Although there has been a flow of population from bush to coast areas, as the schools, missions, and opportunities to earn monetary wages are concentrated on the coast, the average Weather Coast resident has antecedents in the bush and it may be that "bush" values are more compatible to him than "coast" values. Thus, a coast resident moving to the bush is more likely to change affiliation than a bush resident moving to the coast. The distinctions between bush-coast residence and affiliation are basic in Weather Coast society.

Migration probably will not increase substantially in the future because the government and missions are attempting to stabilize village locations, only limited areas (in pre-World War II Talise) are subject to population pressure, and village loyalties are strong. Permanent outmigration from the Weather Coast could increase substantially if larger numbers adopt monetized values, and chances for earning wages on the Weather Coast remain limited. The population will certainly rapidly increase and population pressure on the land is likely to be felt first in populous coastal areas. At this point, there may be large-scale resettlement of bush areas, which were not abandoned because they could not support the residents, but in response to government and mission coercion and inducements.

Temporary Population Movements on the Weather Coast

Weather Coast residents have never been immobile in the sense that they were tied to one village and did not visit others. Marriages were generally contracted between partners from different villages, creating the necessity for journeying to visit relatives. Among at least the bush Birao, the Komuruka (village-hamlet) living arrangement was common (See Chapter 2). Feasts sponsored by powerful "big men" drew visitors from neighboring villages. The practice of "go walkabout", which covered a variety of motivations such as visiting, leaving in protest of village policies, "curiosity", and so forth was institutionalized. Travel was frequently dangerous because of marauders and warfare between villages. As a result, travels were usually of short duration, undertaken in groups, limited to only a few miles, and rarely crossed language boundaries.

European penetration radically altered temporary mobility patterns, the first basic change occurring in the 1870s with recruitment to work on plantations in Queensland and Fiji (Chapter 2). Most of those migrants were males, aged 15-44, and usually single.

The expulsion of the Melanesian labor force from Queensland was offset by the rise in the demand for plantation labor in the BSIP, on the north coast of Guadalcanal, or on other islands, such as the Russell Islands. The Weather Coast remained "one assured source of able bodied laborers who, in order to earn money, would leave their homes for periods of up to two years" (Chapman, 1970:171). Labor statistics available for the period 1915-40 indicate that plantation recruitment from Guadalcanal ranged from a low of 97 in 1935 to a high of 551 in 1925 with an average annual recruitment in the neighborhood of 300 (Groenewegen, 1972:9). As most contracts were for two years, with escape clauses, the average number of plantation workers from Guadalcanal was probably in the neighborhood of 500. Although statistics are not available, it seems almost certain that the majority of Guadalcanal workers were recruited from the Weather Coast.

The gradual pacification of the Weather Coast in the first and second decades of the 20th century reduced the dangers of traveling within the Weather Coast and undoubtedly facilitated traditional types of population movement. The inauguration of the head tax in 1925 stimulated migration for economic purposes as all adult males, aged 16 and over, were expected to pay a head tax.

With the aid of the 1931 census and the 1931 head counts, rough estimates have been made of the number of persons away from their villages at the time of the census. Whereas 9.0% of the

Guadalcanal population were not in their own villages at the time of the 1931 census, 11.6% of the Weather Coast population were away from their villages at the same date. However, whereas 14.2% of the population from Wanderer Bay to Talise were away, only 5.9 percent of the population from Avu Avu to Marau were absent from their villages. 16.6 percent in Duidui, but only 5.0 percent in Moli were away. There is no way of ascertaining the reasons for the absences, although most of the absentees were males above the age of 16. These results confirm that the residents west of Avu Avu were much more actively involved in wage labor than those east of Talise.

In 1951, it was noted (Wrightson, 1951) that the young men from Talise went "almost exclusively" to the Fairymead Sugar Company estate at Yandina. Wrightson (1951) further mentioned that the workers preferred the life of their villages but felt the need to earn wages in order to support kinsmen. No complaints about the conditions of work were voiced.

In 1953, Wrightson (1953) noted that most Talise workers now preferred to work on plantations in north Guadalcanal although many still worked for the Fairymead Sugar Company. A detailed survey undertaken by Wrightston (1953b) in the present ward of Vatukulau indicated that 10 percent of the entire population, but 36 percent of the men between ages 15 and 45, were absent from their villages, and two-thirds of those single. Whereas the Fairymead Sugar Company had previously recruited most of the labor, plantation owners at Rere and Araligo were also beginning to recruit and the newly established capital (Honiara) was beginning to attract laborers.

In 1960, the headman of East Talise was beginning to complain that "custom" people in the Talise Anchorage area "keep on running off to Makaruka" (Low, 1960). The Moro movement, which originated in Makaruka in 1957, soon attracted many adherents who were alienated by the apparent neglect of the Weather Coast, and made periodic pilgrimages to Makaruka. Strong support for the movement came from Talise, with Koloula Valley and Avu Avu also supplying many adherents. Although the Moro movement appealed to traditional vaules, it could never have existed in the pre-contact Weather Coast. The Europeans fostered unity by placing villages under one rule and then not providing the benefits residents felt they deserved. The Melanesians were asked to give up their values, without hope of enjoying benefits taken for granted by Europeans. The Moro movement fostered attempts to attain European standards of living, by Melanesian self-help methods, while adhering to traditional values.

Schools were also established on the Weather Coast after World War II, before which the few schools that existed in Guadalcanal were concentrated on the northern coast. Few Weather Coast residents received any schooling and that available was rudimentary. The establishment of schools stimulated migration for educational purposes, as the schools were widely spaced and controlled by religious denominations. Children attended the nearest school of their denomination, rather than the nearest school available. Because few schools taught beyond standard 3 classes, it remained necessary to leave the Weather Coast for a senior primary or higher education.

Chapman (1970) found an extremely high level of temporary population mobility in both villages studied. The 221 residents of Duidui undertook 324 moves out of the village and the 110 residents of Pichahila made 316 moves in just a two-month period. In both villages most moves were undertaken for reasons that would have existed in pre-contact times, although Duidui residents (traditionally a source of labor) made significantly more "post-contact"moves than Pichahila residents. Many moves seemingly made for economic reasons were later found to involve motivations quite removed from a desire for economic gain, an example being the migration of a number of young men to earn money to replace the roof of a village church. Moves made for traditional reasons tended to last less than eight days whereas post-contact moves

POPULATION CHANGE FROM MOVEMENT 1972
By Sex and Age

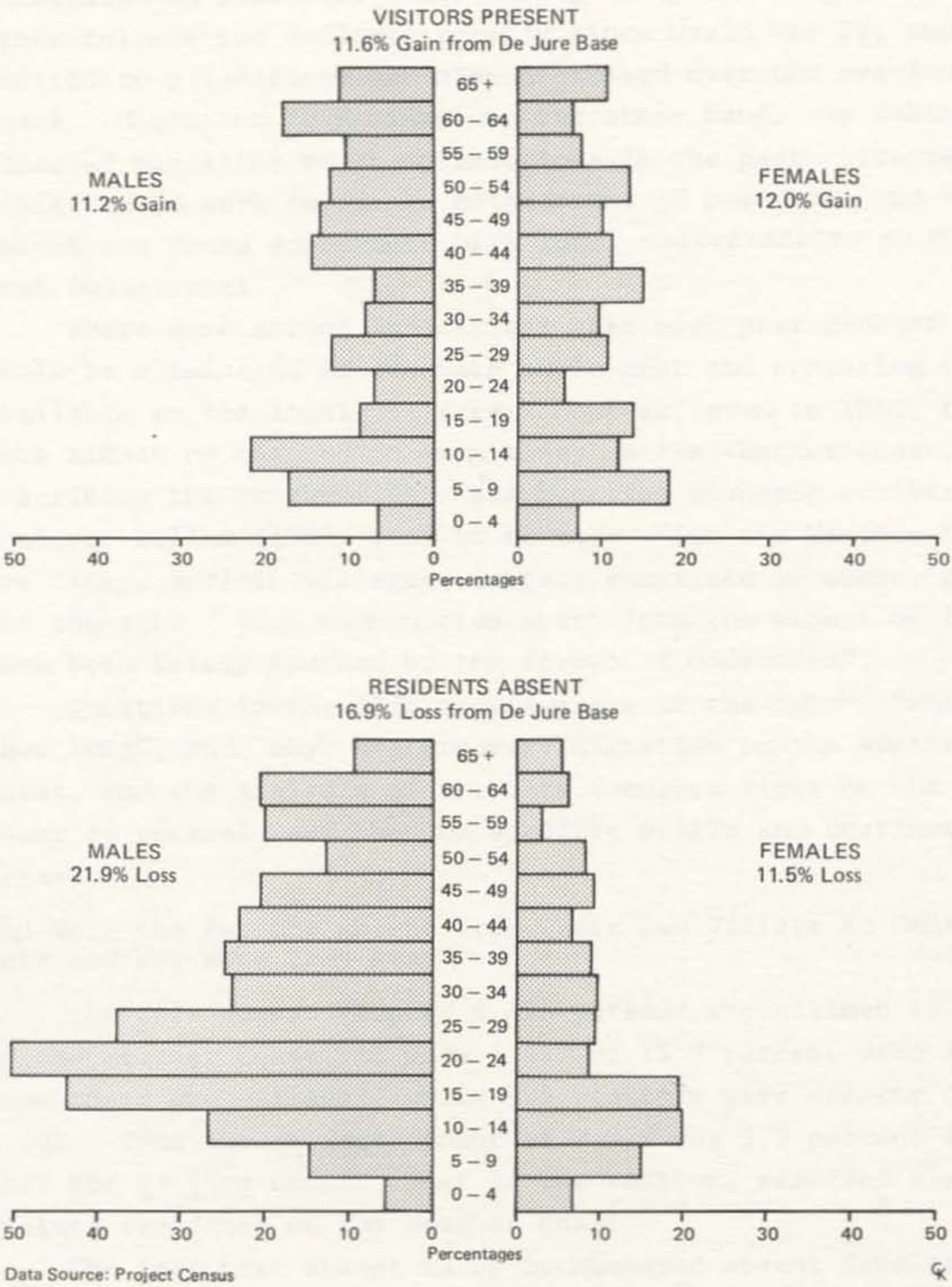


Figure 3.10

Table 3.57 indicates that the age structure of the absent residents was vastly different from that of the residents present at census time.

Table 3.57

AGE STRUCTURE OF MELANESIANS PRESENT OR ABSENT IN THEIR VILLAGES AT TIME OF CENSUS

Age	Percent in Given Age Group: Residents Present M	F	Residents Absent M	F	Visitors M	F
0-4	12.6	11.5	3.6	4.3	6.1	6.3
5-9	8.7	6.4	7.3	6.9	12.7	12.5
10-14	5.0	5.1	9.0	6.6	10.7	5.6
15-19	3.2	4.0	12.1	4.8	3.6	4.7
20-24	2.0	4.0	10.2	1.9	2.1	1.7
25-29	2.1	3.8	6.3	2.0	2.9	3.2
30-34	3.3	3.6	4.9	1.9	2.5	2.8
35-39	2.1	2.4	2.8	1.0	1.3	2.8
40-44	1.9	1.9	2.8	.6	2.6	1.6
45-49	1.6	1.8	2.0	.8	1.9	1.4
50-54	1.3	1.3	.9	.6	1.3	.9
55-59	1.1	.9	1.4	.1	1.0	.5
60-64	1.4	1.0	1.6	.4	2.2	.5
65+	2.8	1.8	1.5	.5	2.6	1.5
N.S.	.7	.7	.7	.2	.5	0

Figure 3.10 dramatically indicates that persons in different age groups have different propensities to be absent from home villages. For males, the chances rise from birth to the 20-24 age group, in which more than 50 percent were absent at census time. The rate drops off rapidly to the 30-34 age group and then hardly changes. The percentages of absent females are much lower in all but the three lowest age groups, reaching a high between ages 10 and 19. There is a dramatic drop in the 20-24 age group and the rate changes little in higher age groups. The visitors also have a distinctive age-sex profile. The male visitors are concentrated in the 5-14 age group whereas female visitors are concentrated in the 5-9 age group. There is a much lower

preponderance of males (only 53.8 percent of all visitors). Figure 3.10 also indicates that visitors of both sexes are concentrated in the school-aged and older age groups.

Figure 3.10 graphically shows that the heavy losses of the Weather Coast male population, that have occurred from the temporary migration of individuals, are most marked in the most productive age groups. The loss in females is, overall, balanced by the gain, except in the 10-19 age group. Some 64.7 percent of visitors in Weather Coast villages claim residence on the Weather Coast, and if those in Makaruka are ignored, almost all visitors do reside on the Weather Coast.

The absent residents are more likely to be single than those in comparable age groups who are present in their own village, especially in the 15-34 age groups of both males and females. The absent residents tend to be better educated than the residents present, although there is a sharp differentiation, between the education of absent males aged 25-34, and of absent females aged 20-29, which reflect the almost complete lack of schools on the Weather Coast before 1950. It would appear that education increases the likelihood of temporary migration.

The differences in the charactertistics of migrants and non-migrants can be more easily understood if the reasons for temporary migrations are examined. For residents absent, the reasons were stated by persons left behind, whereas visitors gave their own reasons for leaving the home villages, which are obviously likely to be more accurate. It would be interesting to check the reasons given by visitors against those given by relatives and friends in home villages reporting for them. Chapman (1970) found that many moves involved a multiplicity of motives; yet only one reason could be coded on each census schedule. Despite these problems, the questions on the reasons for absence yielded very interesting results.

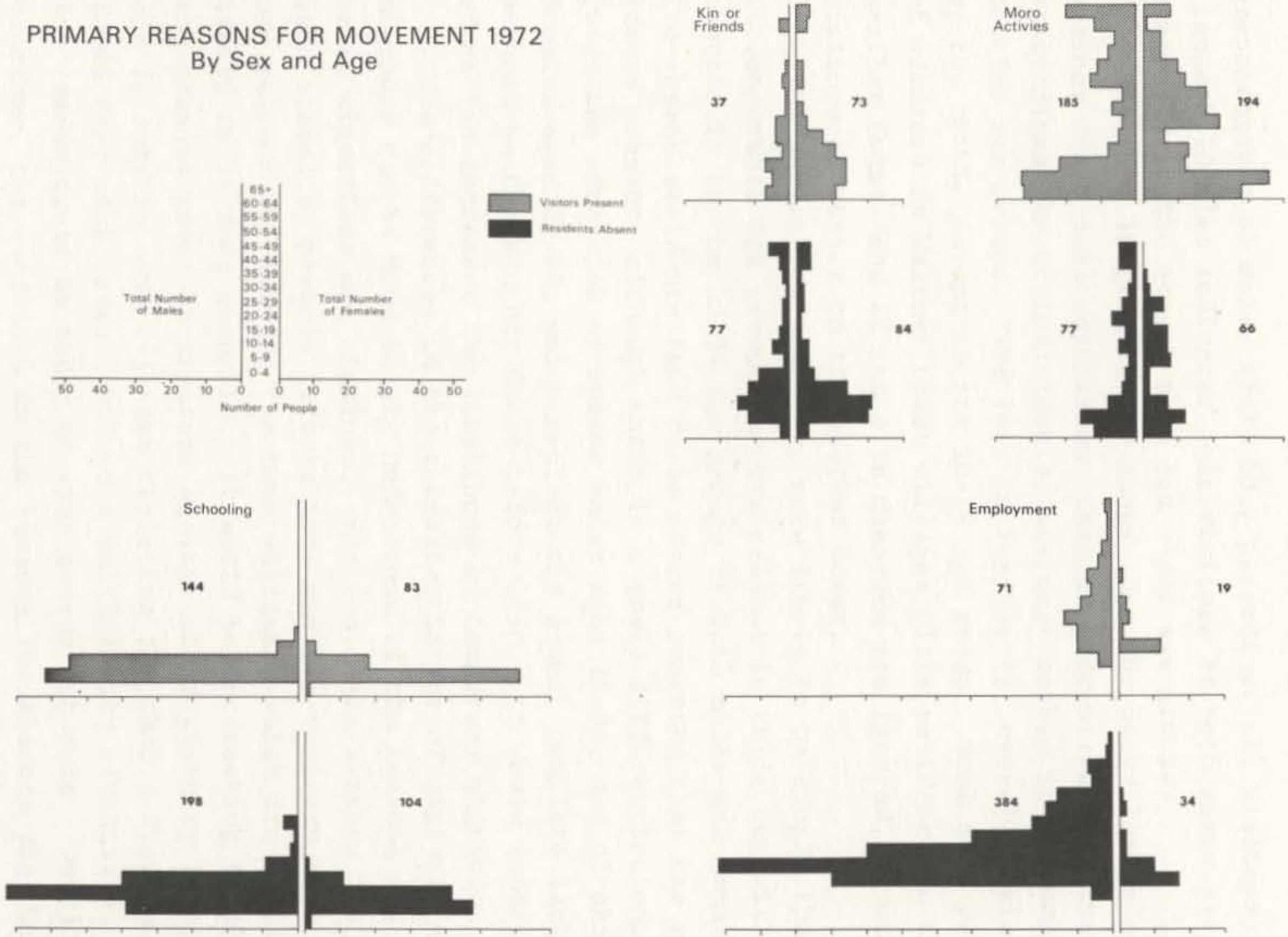


Figure 3.11

Data Source: Project Census

Table 3.58 indicates that more than 4 in 10 males are absent for employment reasons, over 20 percent are away for schooling, and the next most important motivations "Moro Activities", and "visit kin or friends", each account for one of twelve missing males. Very surprising is the relative unimportance of the reason "go walkabout" in view of its catch-all nature and its institutionalization in Weather Coast society.

The largest number of women were absent for schooling, but "to accompany kin or friends" and "visit kin and friends" followed closely in importance, with a relatively large percentage also absent for "Moro Movement" reasons. Few were away for employment reasons.

About 40 percent of visitors are present for Moro activities, while schools attract almost a quarter, and a relatively low percentage are present for employment reasons.

Among the reasons given for leaving one's village, only the Moro movement attracted more to the Weather Coast than were lost to Weather Coast villages. A net of 328 persons were lost through employment, which again reflects the paucity of paying jobs available on the Weather Coast. At the time of the census, 266 persons claimed having employment on the Weather Coast. Of 211 jobs held by Weather Coast de jure residents, only 57 were employed in their own census division, and 60 were employed elsewhere on the Weather Coast. In contrast, a recorded 365 were away from the Weather Coast for employment. The number absent because of the shortage of jobs is in reality much greater than 365 because some of those leaving took families with them, and many persons were visiting wage earners outside the Weather Coast. Of the residents absent for "go walkabout", 6 were reported to be in Honiara and 5 were reported to be in Guadalcanal, north of the Weather Coast.

Figure 3.11 shows that a large percentage of males 5-19 and females 5-14 are absent for schooling. Employment reasons are important in the male 15-19 age group and become paramount in the

Table 3.58

PERCENTAGE OF RESIDENTS ABSENT AND VISITORS PRESENT WHO LEFT THEIR HOME VILLAGES FOR REASONS GIVEN BELOW

	Percent of Residents Absent			Percent of Visitors Absent			Net Gain or Loss Resulting From Migration Due to Reason Given	Ratio of Residents Absent to Visitors Present for Reason Given		
	Males	Females	All	Males	Females	All		Residents Absent		Visitors Present
Schooling	20.8	22.5	21.4	27.4	18.4	23.3	- 75	1.33	:	1
Employment	40.4	7.4	29.6	13.5	4.2	9.2	-328	4.64	:	1
Visit kin or friends	8.1	18.1	11.4	7.0	16.2	11.3	- 51	1.46	:	1
Medical reasons	1.1	2.2	1.4	.4	.7	.5	- 15	4.00	:	1
Church business	1.6	3.9	2.4	1.5	2.0	1.7	- 16	1.94	:	1
Administrative reasons	2.3	.3	1.7	2.9	0	1.5	- 7	1.46	:	1
Trade-retail	3.1	.9	2.3	.6	0	.3	- 30	11.00	:	1
Gardening	2.3	5.0	3.2	2.3	5.1	3.6	- 10	1.29	:	1
Moro activities	8.1	14.3	10.1	35.2	43.1	38.9	+236	.37	:	1
"Go walkabout"	2.0	1.1	1.7	1.0	0	.5	- 19	4.80	:	1
Accompany kin or friends	6.2	19.9	10.7	6.7	8.0	7.3	- 80	2.13	:	1
Miscellaneous	.6	.6	.6	.2	0	.1	- 5	6.00	:	1
Not stated	3.5	3.7	3.5	1.3	2.2	1.7	- 31	2.94	:	1

20-44 age groups, but among females, are only moderately important in the 15-24 age groups and unimportant elsewhere.

Among visitors present (Figure 3.11), Moro activities are important in all age groups except among men 20-29. They especially bulk large in the older age groups, which suggests that the movement attracts older males who bring their families with them to Makaruka. Educational motivations predominate in the 5-14 age groups.

Figure 3.11 shows the age-sex profiles of those away from their villages and those visiting Weather Coast villages for various reasons. Since Chapman (1970) discovered a seasonal pattern of temporary migration, the results probably would have been much different if the census had been taken in, say, June. For example, many persons leave for employment in January or February after gardens have been planted, and return around October when the root crops need to be harvested. Another factor is that schools generally close between mid-November and mid-December, and by the time of the 1972 census two very large boarding schools at Avu Avu and Kopiu Bay had already dismissed their students. Had the census been taken earlier, at least two hundred additional visitors would have been recorded as being present for schooling, as well as an undetermined number of residents absent. The large net inflow of residents 5-9 to the Weather Coast for schooling partly reflects lowering of ages on school records to conform to government guidelines and to ensure continuance of school subsidies (Chapman, 1970). Thus, it appears that parents accurately reported ages of absent school children, but census enumerators did not always get accurate age information at the schools.

As only the Avu Avu and Kopiu Bay schools have classes above standard 4, the indicated large net loss of school children aged 10 and above is in part a reflection of their being closed at census time. Also all children of the SSEM and Anglican dominations, who desire an education above standard 4, must leave the

Weather Coast.

Quite apart from the different magnitudes involved, the age pyramids for "visitors present for employment" and "residents absent for employment" (Fig. 3.11) are quite different. The concentration of females 15-19 is almost entirely a reflection of the hiring situation at the hospital and school complex at Avu Avu. The more even distribution of male visitors present than residents absent may reflect the fact that many of the jobs available on the Weather Coast concern local government administration. Persons elected or appointed to local administrative positions are those of proven status and tend not to be young. By contrast in Honiara (and elsewhere), education, knowledge of English, or muscles are required and young male adults are favored in all categories.

The Moro Movement appears to attract mostly older males and their families, while most who migrate "to accompany kin or friends", are children and wives taken by husbands. Yet there is a real ambiguity apparent in comparison of this category with the category for "Moro movement". Most children merely accompany the male heads of household to Makaruka, yet were coded as moving for Moro activities, whereas children accompanying job seekers were not classified as seeking employment. It is difficult, if not impossible, to distinguish those who leave for a particular reason, from those who choose to accompany the decision-makers. Although there is ambiguity among children's responses, the contrast for wives and other adults reflects the depth of commitment felt by adults toward the Moro Movement, compared with the passive accompaniment of husbands going away for employment

Table 3.59 indicates the reported length of time visitors present and residents absent were away from their home villages, but should not be regarded as exact in view of the different attitude of Melanesians, from Euro-Americans, to measuring time.

Table 3.59

LENGTH OF TIME RESIDENTS ABSENT AND VISITORS PRESENT WERE AWAY FROM OWN VILLAGES AT CENSUS TIME (BY PERCENTAGES)

Residents Absent	< 1 week	1-2 weeks	2 weeks-1 month	1-3 months	3-5 months	6 months to 1 Year	1yr& Over	Not Stated
Males	8.6	5.7	9.8	8.4	5.8	12.8	43.3	5.6
Females	10.2	10.2	10.8	10.4	8.0	13.0	23.1	4.3
Visitors Presnet								
Males	14.9	5.3	12.4	20.9	8.2	6.0	28.9	3.3
Females	15.2	4.5	10.3	21.1	6.5	5.0	34.3	3.2

Almost half of males absent are listed as having been away from the village for over 1 year, which is surprising in view of Chapman's (1970) findings that labor contracts are shorter than they were in the past and most are for 3 to 6 months. It is possible that answers reflect the time the respondent first left the village for the reason he gave, rather than the last time he was actually present (however briefly) in his village. Since even those away on long-term contracts usually visit the village from time to time, it would seem that most respondents put the former interpretation on the question. The difference between the males and females who were absent for 1 year or more confirms that more males than females leave for employment purposes. Nearly 60% of absent males in the 20-29 age bracket were reported as absent for more than 1 year, with a drop to 38% in the 50-54 age bracket, and a more sudden drop to 15.8% in the 55-59 age bracket. Most older males apparently leave their villages for only short periods. Among females nearly 50 percent between ages 20-49 were recorded as being absent for more than 1 year, whereas only one of the 22 women over 55 was away from her village for more than one year. Short-term moves of less than two weeks were dominant among women over 55 years of age.

The fact that a higher percentage of women visitors than men visitors have been away from their home villages for more than 1 year is due to the Moro movement, which seems to hold persons to the Makaruka area for years. Proportionately, more female than male visitors are visiting on the Weather Coast because of the Moro movement. However, apart from that, most of the visitors are from the Weather Coast and making moves that take them out of their villages for only a short time. The most conspicuous exception are the school children, since over 50 percent of males, an 44 percent of females aged 5-14, were away from their home villages for over 1 year.

The question asked of residents in own village on how long had it been since they had left their villages for one day or more caused problems which necessitated the discard of much data. Table 3.60 therefore may be expected to give only the most general impression of patterns.

Table 3.60

LENGTH OF TIME SINCE RESIDENTS PRESENT VENTURED AWAY FROM THEIR OWN VILLAGES FOR MORE THAN ONE WEEK

	< 1 week	1-2 weeks	2 weeks-1 month	1-3 months	3-6 months	6 months to 1 year	1+ years	Never	Not Stated
Males	1.5	7.7	11.8	11.3	4.8	5.4	24.7	28.4	4.3
Females	.7	6.3	7.7	8.2	3.2	5.1	29.8	34.7	4.3

In terms of having left the village in the previous year, the males are more mobile than the females, while the concentration of responses in the "2 weeks-1 month" and "1 month-3 months" categories may reflect the return of seasonal laborers to harvest their yam gardens. The data on age, not surprisingly, indicate that the youngest and the oldest are the most immobile of all groups. Among the males, mobility is greatest among those 20-24 (over half were away from their villages in the preceding 3 months), but among females is greatest among those in the 15-19 age group (over one-third were away from their villages in the preceding 3 months).

The above is a general outline of patterns of temporary migration to, within, and from the Weather Coast. In the next section, the concentration will be on the Weather Coast census divisions, and areas outside of the Weather Coast that receive the bulk of the migration from the Weather Coast.

Patterns of Temporary Migration From, Within, and To Weather Coast Areas

Talise, as defined in 1931, has long been known as an area of dependable wage labor and recruiting has traditionally been heavy there. In contrast, much less labor recruiting took place toward the eastern end of the Weather Coast. Table 3.61 indicates that the Talise area (that is, present Duidui, Vatukulau, and Talise) still exports a large number of people.

Table 3.61

VISITORS PRESENT AND RESIDENTS ABSENT FROM OWN VILLAGE: PERCENTAGE OF THE 1972 DE JURE POPULATION (BY DIVISIONS)

Division	Percentage of De Jure Population: Visitors Present	Percentage of De Jure Population: Residents Absent	Percent Gain or Loss Through Temporary Migration
Wanderer Bay	17.1	20.7	- 1.5
Duidui	5.4	22.5	-17.1
Vatukulau	2.0	17.9	-15.9
Talise	3.6	21.1	-17.5
Avu Avu	6.5	8.9	- 2.4
Moli	38.0	7.8	+30.2
Tetekanji	.7	11.8	-11.1
Marau	12.6	14.2	- 1.6
	11.6	16.8	- 5.2

The percentage of persons absent is much greater west of Avu Avu census division than for the eastern divisions (Fig. 3.13). The attraction of Moli for visitors is obvious. Wanderer Bay has a large number of both visitors present and residents absent whereas Marau has moderate numbers of both. The other divisions did not have many visitors at census time, although Avu Avu would have had more had not the school been closed. The divisions fall into three clear categories: Moli attracts many more visitors than it has residents absent; in Wanderer Bay, Marau and Avu Avu, the visitors present almost offset residents absent; while in Talise, Duidui, Vatukulau and Tetekanji, the de facto population is much lower than the de jure population. However, in the last case, the population loss stems not so much from a large migration away from the home villages, as from a minimal number of visitors.

Of the 284 residents absent who crossed ward boundaries, but stayed on the Weather Coast, no less than 183 were reported bound for Moli (Table 3.62), and 108 of those resided in Talise. In all wards except Duidui and Wanderer Bay, Moli was the most important destination for those crossing ward lines but staying on the Weather Coast. The only other important flow across ward boundaries involved the flow of residents from Duidui to Wanderer Bay. The flow to Moli is, of course, due mainly to the Moro movement whereas the flow to Wanderer Bay is due to the presence of mission schools at Sughu and Babanakira. Of those reported absent, 331 were reported to be in another area in the same census division, but only in Wanderer Bay did this involve a large percentage of absent residents, again due to the presence of several schools.

No fewer than 394 of the absent residents were reported to be in Honiara, which drew well from all areas and particularly Duidui and Vatukulau. Another 260 were reported to be in Guadalcanal north of the Weather Coast. In absolute numbers, Wanderer Bay, Duidui, and Vatukulau contributed the bulk of the migration,

Table 3.62
REPORTED DESTINATION OF ABSENT RESIDENTS

	Origin																	
stination	Wander-er Bay		Duidui		Vatu-kulau		Talise		Avu Avu		Moli		Tete-kanji		Marau		No. to Destinatio Division	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
nderer Bay	73	50	27	6	6	2	0	0	0	0	2	0	0	0	0	0	108	58
idui	1	2	37	40	5	2	0	0	0	0	0	0	0	0	0	0	43	44
tukulau	0	0	3	5	14	13	2	1	0	0	0	0	0	0	0	0	19	19
lise	2	3	1	0	2	5	6	13	1	1	0	0	0	0	0	0	12	22
uAvu	0	0	0	0	1	5	6	3	9	5	4	5	0	0	0	0	20	18
li	0	0	10	10	8	7	56	52	5	4	12	13	10	3	11	7	112	96
tekanji	2	0	0	0	0	0	0	0	0	0	4	4	2	4	0	0	8	8
rau	0	1	1	0	0	0	1	0	0	0	6	1	3	0	18	7	29	9
niara	28	8	112	32	91	26	26	6	21	2	15	2	8	1	10	6	311	83
her Guadalcanal	54	21	45	18	38	15	2	1	14	0	4	0	5	8	11	4	173	87
her Central District	2	1	4	1	5	0	2	0	1	0	1	0	1	0	0	0	15	2
laita	0	0	10	2	9	2	1	0	0	0	0	0	1	0	0	0	22	4
stern District	5	0	10	1	10	0	0	0	0	0	2	0	1	0	0	0	27	1
her	0	1	7	7	1	0	1	1	0	0	7	3	1	3	0	4	17	19
t Stated	3	2	5	3	1	1	5	1	2	0	3	2	0	0	3	0	22	9
TAL ABSENT	171	89	273	125	191	78	108	78	53	12	60	30	32	19	53	28		

while Tetekanji, Marau and Wanderer Bay were the only divisions to send as many or more persons to Weather Coast Guadalcanal as to Honiara. The very small number reported in other parts of the Central District and the Western Solomons is surprising when one considers that as late as the mid-sixties, plantations on the Russell Islands in the Western Solomons, and elsewhere in the Central District were heavily dependent on Weather Coast labor. The present long-distance patterns of temporary migration bear little resemblance to those reported to exist before World War II.

The considerable attraction of Moli for persons outside the Weather Coast is evident in Table 3.63. Of the 229 persons outside of the Weather Coast visiting Moli, 72 spoke Malango and 130 spoke Ghua, both of which are languages of the Central Guadalcanal "bush". According to Hackman (Groenewegen, 1972:101, 103) there are about 1,500 Malango speakers and 150 Ghua speakers on Guadalcanal. The Moro movement appears to draw very few adherents from the northern coast of Guadalcanal. A number of persons north of Wanderer Bay also visit Wanderer Bay, either to attend

Table 3.63

HOME RESIDENCES OF VISITORS ON THE WEATHER COAST

	Location of Visitors																	
	Wander-er Bay		Duidui		Vatu-kulau		Talise		Avu Avu		Moli		Tete-kanji		Marau		Total Divis	
Area of Residence	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	[illegible]
Wanderer Bay	74	65	2	2	0	0	0	0	0	0	0	0	0	0	0	0	76	[illegible]
Duidui	25	3	45	38	1	4	1	0	0	0	7	11	0	0	1	0	80	[illegible]
Vatukulau	5	3	2	2	12	9	2	8	1	7	7	8	0	0	1	0	30	[illegible]
Talise	1	1	0	0	2	1	5	16	7	5	75	60	0	0	0	0	80	[illegible]
AvuAvu	0	0	0	0	0	0	0	0	4	4	5	5	0	0	0	0	9	[illegible]
Moli	0	1	0	0	0	0	0	0	4	5	6	7	0	0	7	0	17	[illegible]
Tetekanji	0	0	0	0	0	0	0	0	0	0	12	8	1	0	2	0	15	[illegible]
Marau	0	0	0	0	0	0	0	0	0	0	10	10	0	0	15	6	25	[illegible]
Other Guadalcanal	31	20	2	1	1	0	0	0	3	1	110	119	1	0	12	7	160	[illegible]
Other Central District	4	2	1	0	0	0	0	0	0	0	0	0	0	0	1	0	6	[illegible]
Malaita	4	1	0	0	1	0	0	0	2	2	1	0	0	0	4	1	12	[illegible]
Western District	0	1	0	0	0	0	0	0	0	1	0	0	1	0	10	0	11	[illegible]
Honiara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[illegible]
TOTAL VISITORS	144	97	52	43	17	14	8	24	21	25	223	228	3	0	53	14	521	[illegible]

Babanakira school or to visit relatives in the Sughu area, just as a number of persons from north of Marau and from the Western District have been attracted to Marau. The latter results from the agricultural experimental station at Manikaraku. According to Bellam (1968:11) most indigenous civil servants come from the Western Solomons, and Witt (1973) confirmed that this describes the staff at the station.

It is of interest to compare the data on the origins and destinations of visitors from other parts of the Weather Coast, with the data on absent residents who have gone to other areas on the Weather Coast. Both populations contain the same people and should therefore yield the same data, with the exception of the few who have not arrived at their intended destinations. An effort was made to match the _de facto_ and _de jure_ census forms of Weather Coast residents away from their home village but still present on the Weather Coast at census time, and all but 50 persons were accounted for in both counts. Table 3.64 represents a cross check of the residents absent and visitors present information, by census division.

If all residents absent and visitors present were captured by the census, the number of visitors present would very slightly outnumber the residents absent because those in transit to or from areas outside the Weather Coast, but still on the Weather Coast, would be captured among "visitors present" although considered to be "residents absent" outside the Weather Coast. The data show that residents absent outnumber visitors present by four. However, female visitors present outnumber residents absent by 15, whereas male residents absent outnumber male visitors present by 19. It is possible that many female residents absent were not reported, whereas some males may have been between villages during the census and not counted among the visitors present. If the former is true, the female _de jure_ population on the Weather Coast was higher than the census figure.

Table 3.64

ENUMERATION OF THOSE AWAY FROM OWN VILLAGE BUT STILL PRESENT ON WEATHER COAST (BY CENSUS DIVISION)

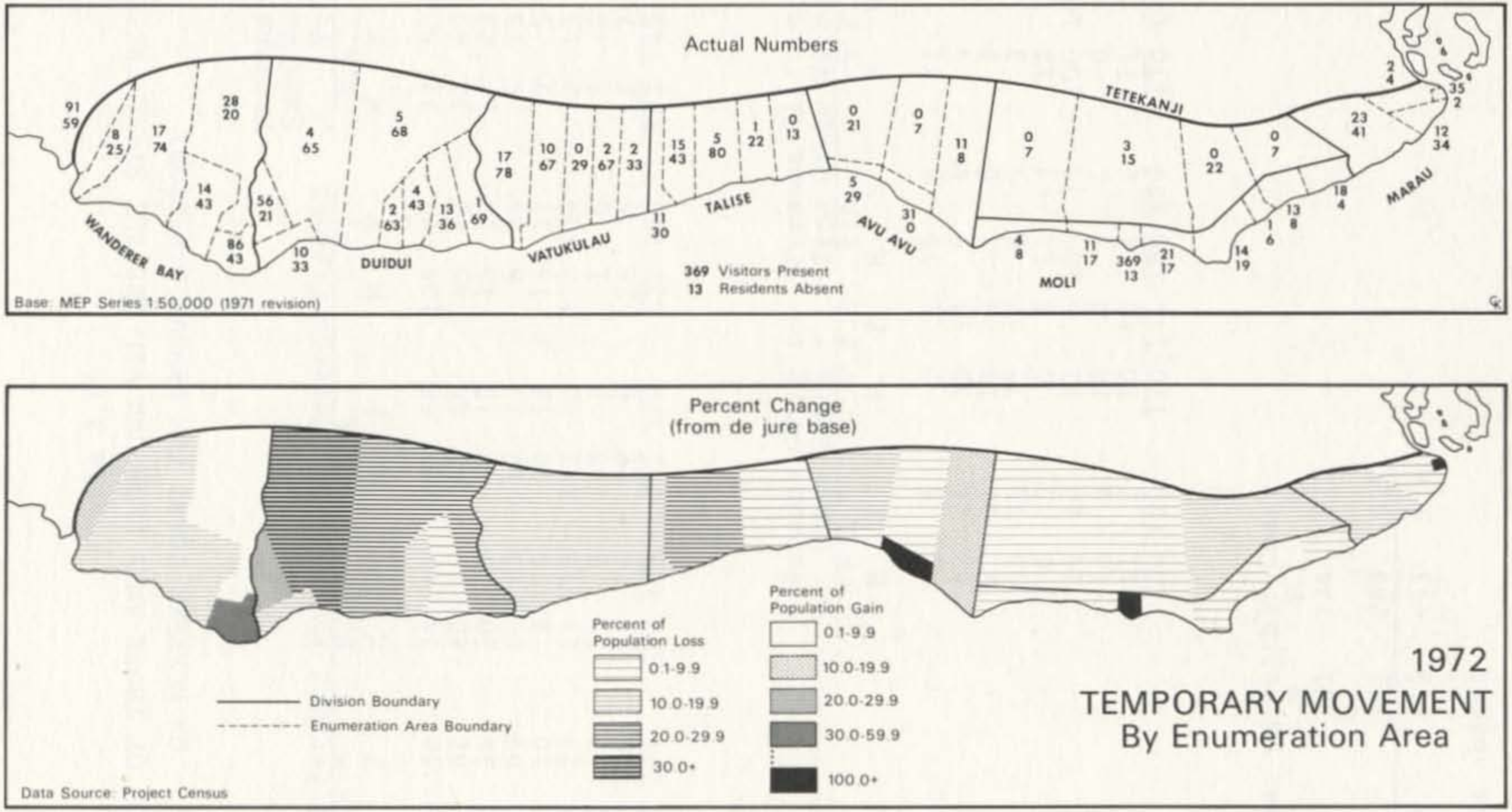
Division	All Persons Absent				All Persons Present				Persons Present Same Ward As Home Village			
	R.A.[a]		V.P.[b]		R.A.		V.P.		R.A.		V.P.	
	M	F	M	F	M	F	M	F	M	F	M	F
Wanderer Bay	78	56	76	67	108	58	105	73	73	50	74	[illegible]
Duidui	79	61	80	56	43	44	49	42	37	40	45	[illegible]
Vatukulau	36	34	30	37	19	19	15	14	14	13	12	[illegible]
Talise	71	69	80	83	12	22	8	24	6	13	5	[illegible]
Avu Avu	15	10	9	9	20	18	16	21	9	5	4	[illegible]
Moli	28	23	17	13	112	96	112	109	12	13	6	[illegible]
Tetekanji	15	7	15	8	8	8	1	0	2	4	1	[illegible]
Marau	29	14	25	16	29	9	26	6	18	7	15	[illegible]
	351	274	332	289	351	274	332	289	171	145	162	[illegible]

Division	Persons Going to Other Wards				Persons Visiting from Other Wards			
	R.A.[a]		V.P.[b]		R.A.		V.P.	
	M	F	M	F	M	F	M	F
Wanderer Bay	5	6	2	2	35	8	31	8
Duidui	42	21	35	18	6	4	4	4
Vatukulau	22	21	18	28	5	6	3	5
Talise	65	56	75	67	6	9	3	8
Avu Avu	6	5	5	5	11	13	12	17
Moli	16	10	11	6	100	83	100	102
Tetekanji	13	3	14	8	6	4	0	0
Marau	11	7	10	10	11	2	11	0
	180	129	170	144	180	129	170	144

Persons Away on Weather Coast	M	F	T
R.A. Data	351	274	625
V.P. Data	332	289	621
R.A. - V.P.	+19	-15	+ 4

[a] Residents absent

[b] Visitors present



Actual Numbers
WANDERER BAY
DUIDUI
VATUKULAU
TALISE
AVU AVU
MOLI
TETEKANJI
MARAU
369 Visitors Present
13 Residents Absent
Base: MEP Series 1:50,000 (1971 revision)
Percent Change
(from de jure base)
Percent of Population Loss
0.1-9.9
10.0-19.9
20.0-29.9
30.0+
Percent of Population Gain
0.1-9.9
10.0-19.9
20.0-29.9
30.0-59.9
100.0+
Division Boundary
Enumeration Area Boundary
Data Source: Project Census
1972
TEMPORARY MOVEMENT
By Enumeration Area

Figure 3.12

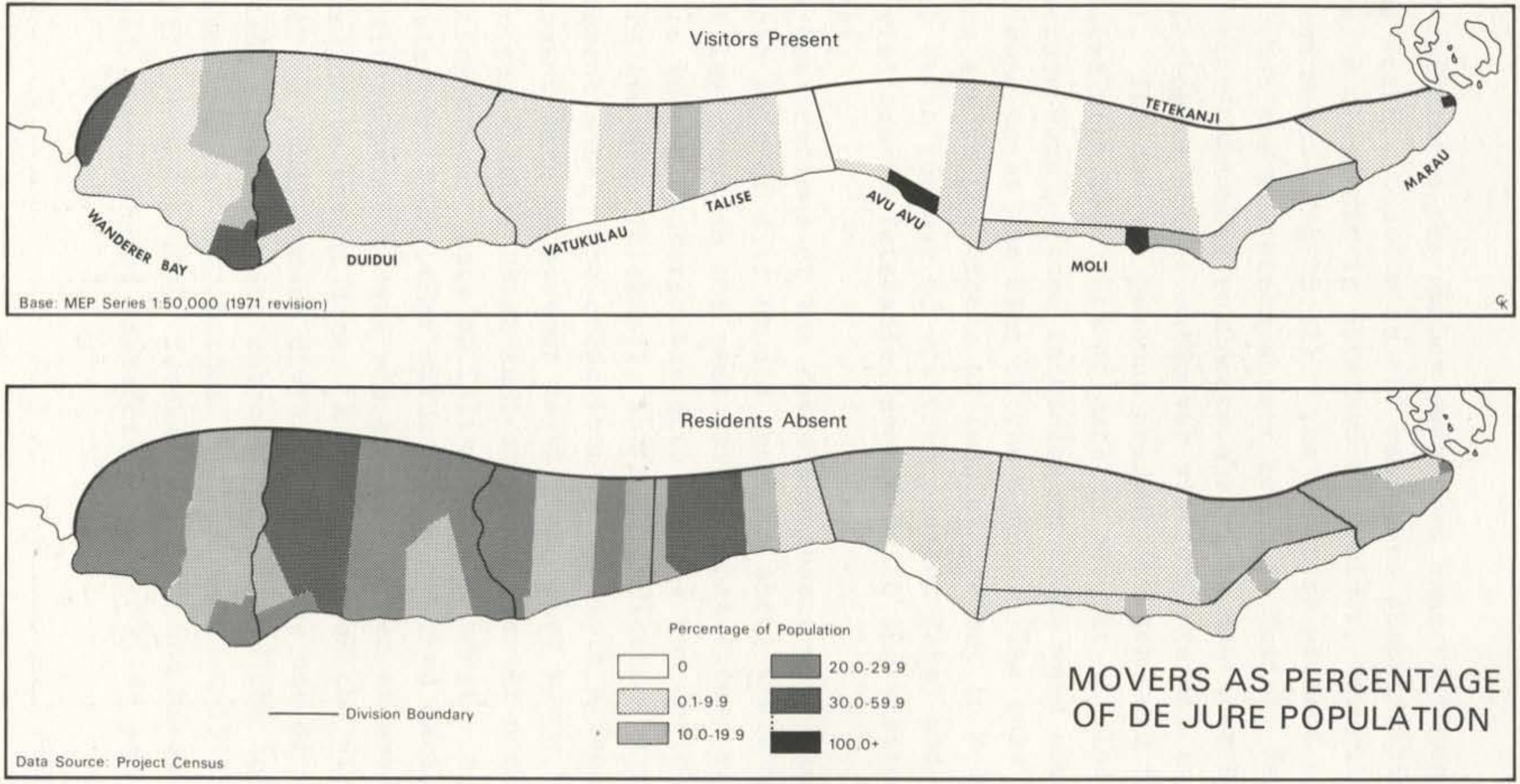

Visitors Present
TETEKANJI
MARAU
TALISE
AVU AVU
WANDERER BAY
DUIDUI
VATUKULAU
MOLI
Base: MEP Series 1:50,000 (1971 revision)
Residents Absent
Percentage of Population
0
0.1-9.9
10.0-19.9
20.0-29.9
30.0-59.9
100.0+
Division Boundary
MOVERS AS PERCENTAGE
OF DE JURE POPULATION
Data Source: Project Census

Figure 3.13

If one calculates the number away from home villages but still on the Weather Coast with the residents absent/visitors present data, a close fit is obtained for Duidui, Vatukulau, Tetekanji, and Marau (Fig. 3.12). The visitors present count is much higher than the residents absent count in Talise; female visitors present outnumber residents absent in Wanderer Bay; and female residents absent outnumber visitors present in Avu Avu and Moli. The data on persons present in each ward that were calculated with both sets of data do not fit as closely, possibly because some persons intending to cross ward boundaries had not yet done so at the time of the census. The only serious discrepancies are in the excess of females present in Moli and Wanderer Bay (with the use of visitors present data) and the absence of visitors to Tetekanji (according to the visitors present data).

If the destinations of the residents absent were accurately reported, both sets of data should indicate about the same number away from villages but in the same wards. That excess of females again appears in the Wanderer Bay data as does the deficiency of persons in Avu Avu, Tetekanji, and Moli indicated by the visitors present data. The comparison of visitors present/ residents absent data on persons leaving to other wards but remaining on the Weather Coast indicates far greater numbers in the visitors present data on Talise and Tetekanji. A comparison of visitors from other wards shows a marked excess in the Moli visitors present data and an even larger excess in the Tetekanji residents absent data. A comparison of the visitors of Moli from the other census divisions with the use of visitors present/residents absent data respectively, yield the following results: Wanderer Bay 0/0, Duidui 18/20, Vatukulau 15/15, Talise 125/108, Avu Avu 10/9, Tetekanji 19/13, and Marau 20/18. The only real discrepancies therefore concern Talise and Tetekanji.

With the evidence above, one can make several assertions about the data. A number of Wanderer Bay females who were absent from their own villages but still somewhere in Wanderer Bay were not counted among the residents absent. Many residents from Talise who were in Moli were not counted among residents absent, in part undoubtedly because they tended to move in family groups, and because many were in Moli for several years. The census de jure figure for Talise is too small by at least twenty. Many Tetekanji residents who went to Moli were incorrectly reported as going to other villages in Tetekanji. A number of residents absent from other wards were incorrectly reported or coded as being in Tetekanji. Some of the Moli residents reported to be elsewhere on the Weather Coast may have left the Weather Coast or have been reported as residents elsewhere in Moli. All in all, the agreement between the residents absent and visitors present data is quite good when one considers the difficulties involved in taking both a de jure and de facto census in a largely preliterate population.

Figures 3.12 and 3.13 portray the magnitude of residents absent and visitors present for each enumeration district. The Makaruka area stands out with 369 visitors present against 13 residents absent. Conversely, the large number of residents absent in various enumeration districts in Talise, Vatukulau, and Duidui also stand out. Figure 3.13 clearly shows that the percentage of residents absent is much lower in the areas to the east of enumeration area 3 in Talise than in the rest of the Weather Coast. Enumeration areas 2 and 3 in Talise have sent large numbers to Makaruka. In the "big name" village of Vatalena, no less than half of the 111 de jure residents are absent. The very high rates recorded for enumeration areas 2 and 3 in Duidui result from a complete lack of opportunities to earn wages, a tradition of migration for wage employment, and the absence of schools in either district. The indicated complete lack of residents absent in enumeration district 2 in AvuAvu results from the fact that the only settlement, Avu Avu mission, contains only 3 de jure residents. The low mobility of Moli residents is equally obvious, but more mobility would have been indicated for Avu Avu had the Avu Avu school been in session, as has been noted.

Figure 3.13 also indicates a very low percentage of visitors present in most wards, as many enumeration areas, especially those in the bush, recorded no visitors present. The extremely high rates indicated for enumeration areas 2 in Avu Avu and 3 in Marau are statistical artefacts, since the de jure population of the former is 3 and of the latter, 7. Enumeration area 3 in Marau consists of a plantation that employs some hired help and an agricultural experimental station. Enumeration area 3 in Moli contains Makaruka, the number of whose visitors fluctuates with the fortunes of the Moro movement and the meetings called. However, visitors always outnumber permanent residents (in this case about 120). The high percentages for enumeration area 5 in Wanderer Bay and 1 in Duidui reflect the presence of Babanakira and Vatukapicha boarding schools respectively. Enumeration area 1 in Wanderer Bay contains the Sughu school where 79 students were counted in the 1972 census. Enumeration area 1 in Marau would have contained many visitors had the Kopiu School been in session. Other parts of the Weather Coast had little attraction for persons not possessing land or not closely related to persons already living there.

Figure 3.12 shows that all districts losing more than 16.5 percent of the de jure population (10 in all) are west of enumeration area 5 in Talise. Only 10 of the 45 divisions gained population from temporary migration and only 4 gained more than 6 percent. These divisions have been discussed above. Of the 5 districts with at least a twenty percent net loss, two are in Talise and closely associated with the Moro movement, and 3 are in Duidui and have traditionally been areas with heavy export of labor. The low net changes for Moli divisions outside of Makaruka again indicate the low mobility of Moli residents. It must be stressed, however, that the patterns indicated by the maps may have been quite different if the census had been taken at a different time of the year.

Figure 3.14 portrays the age-sex structures of residents absent and visitors present in each division. The large inflow of persons aged 5-19 in Wanderer Bay reflects the presence of Babanakira school in the Tina river valley and the Sughu school in Wanderer Bay itself. Most males aged 20-24 but none aged 45+ are away for employment reasons, while 9 are away for retail reasons. This large number of residents away reflects the fact that Honiara is more accessible to Wanderer Bay than to any other ward in the western and central parts of the Weather Coast. Three females are away for employment but all others above age 14 are away for traditional reasons. No one is away for Moro-related reasons. The reasons why persons more than 14 are visiting Wanderer Bay are mixed, but all are traditional.

The Duidui pyramid (Fig. 3.14) reflects the fact that Duidui must export many of the school children and almost all persons seeking to earn money. Most females above age 20 who are away are accompanying their families, although nine males and 6 females are away because of the Moro movement. The shape of the visitors-present pyramid results from a few students living at the Viso and Vatukapicha schools, and from the lack of monetary opportunities in Duidui. Only 4 males and 2 females are present for job-related reasons, compared with 109 males and 4 females away for employment.

The contrast between the pyramids for Vatukulau (Fig. 3.14) reflect the fact that it has no boarding schools and few job opportunities. Twenty persons are away for schooling and no fewer than 121 males are away for employment. The few visitors are present for a variety of traditional reasons.

The Talise pyramids result from the fact that no fewer than 106 of the 188 residents absent in Talise census division were

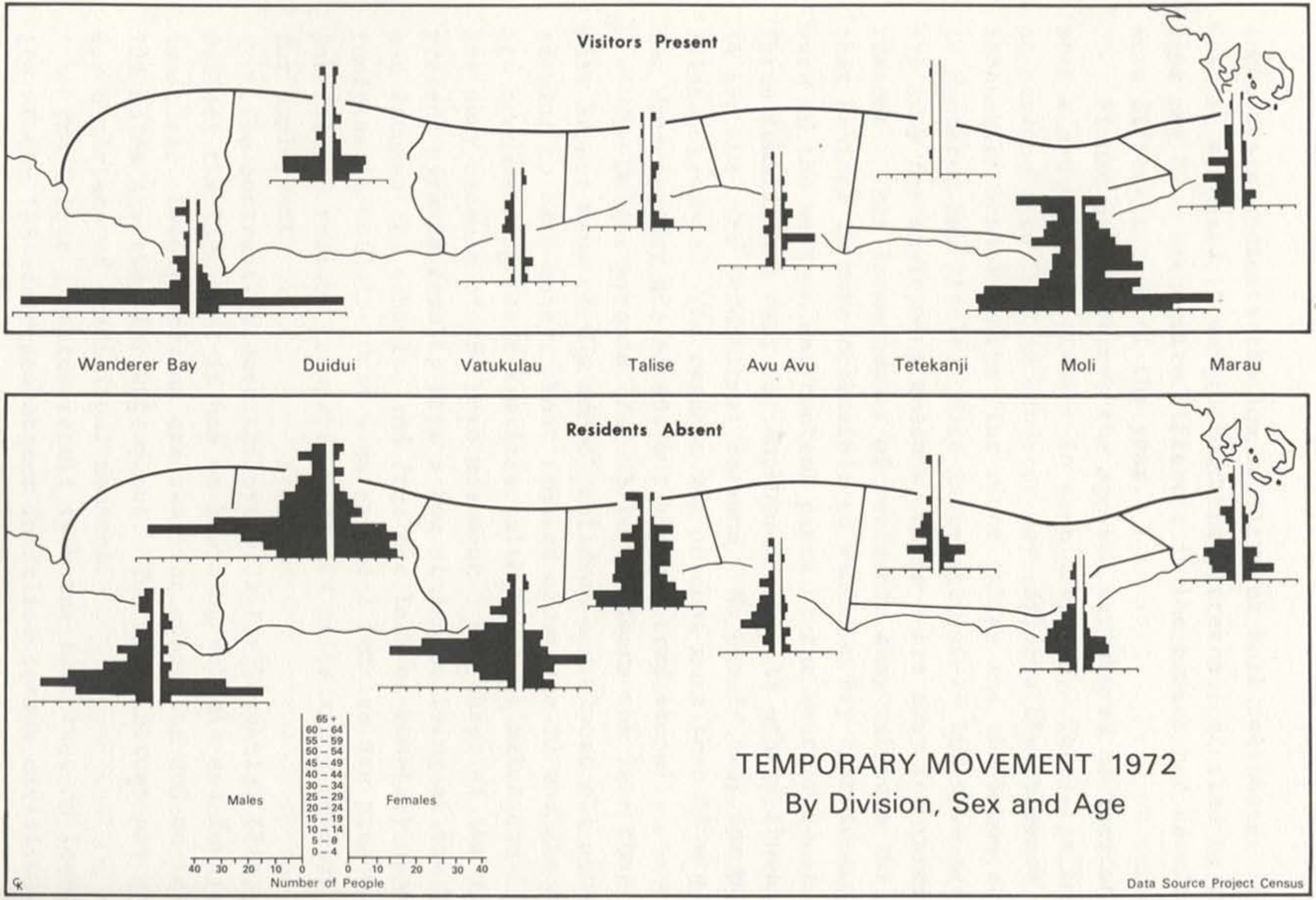

Visitors Present
Wanderer Bay
Duidui
Vatukulau
Talise
Avu Avu
Tetekanji
Moli
Marau
Residents Absent
65 +
60 – 64
55 – 59
50 – 54
45 – 49
40 – 44
30 – 34
25 – 29
20 – 24
15 – 19
10 – 14
5 – 9
0 – 4
Males
Females
40 30 20 10 0
0 10 20 30 40
Number of People
TEMPORARY MOVEMENT 1972
By Division, Sex and Age
Data Source Project Census

Figure 3.14

involved in the Moro movement, which attracts mainly families. Only one person was away for schooling despite the fact that Talise lacks educational facilities. Twenty seven males and four females were absent for employment. The visitors were present for a variety of traditional reasons and, if those under 5 who accompanied parents are ignored, the most frequent stated reason was "gardening" (5 responses).

Employment accounted for 32 of the 53 males absent from Avu Avu census division (Fig. 3.14). The very few absent for education (4) reflects the presence of several community schools and of the (closed) Avu Avu school. No females were away for employment, although five males and three females were away because of the Moro movement. The age-sex pyramid of visitors present would have been dramatically different had the Avu Avu school been in session at census time. Eight female visitors aged 15-19, and five female visitors aged 25-34 were employed in Avu Avu in the mission-school-hospital complex. However, as is confirmed by the residents-absent data, none of the female employees came from Avu Avu but rather from Tetekanji and Moli. Jobs also attracted eleven male visitors to Avu Avu, most, if not all of whom, were associated with the mission complex.

Residents absent from Moli (Fig. 3.14) reflect the few students away at boarding school as well as the relatively few males absent for job-related reasons (24 in a total population of almost 1,200). The age-sex pyramid of visitors present indicates the overwhelming impact of the Moro movement, which has attracted no fewer than 188 males and 196 females. Many of the remaining 34 male and 32 female visitors are probably in Moli because of the Moro movement, although 15 males did state they were there for employment reasons.

Twenty-eight males and 16 females were away from Tetekanji for employment. Of the 15 absent males aged 20-24, 11 were away for employment as reported by relatives or friends. No one was reported absent because of Moro activities. The visitors present pyramid shows one visitor with friends or relatives, one absent from his home village for employment and one away to join the Moro movement.

Eleven males and nine females in Marau were absent from their own village for schooling (at the Makina Mission) and a further 14 males for employment. No one was reported away because of the Moro movement. According to the census, there were no visitors in Marau for schooling whereas nearly 100 students would have been had the Kopiu school been in session. No fewer than 23 male visitors were present for employment but unfortunately for Marau residents, most of the jobs were available at the government subdistrict station and filled by skilled personnel from outside the Weather Coast.

The average length of time absent residents are reported to have been away from their own village varies greatly from district to district (Table 3.65).

Table 3.65

LENGTH OF TIME ABSENT RESIDENTS HAVE BEEN AWAY FROM OWN VILLAGE (BY WARD IN PERCENTAGES)

	Percentage Away From Own Village							
Ward	< 1 week	1-2 weeks	2 weeks-1 month	1-3 months	3-6 months	6 months-1 year	1 year & over	Not Stated
Wanderer Bay	20.5	5.7	12.5	11.0	4.2	11.7	27.7	5.8
Duidui	4.0	7.0	5.5	7.3	6.0	22.4	44.2	3.5
Vatukulau	8.0	5.1	6.9	6.6	5.1	10.2	53.6	4.4
Talise	1.6	2.7	10.6	10.1	4.8	4.3	60.1	5.9
Avu Avu	6.2	9.2	10.8	18.5	16.9	7.7	24.6	6.2
Moli	6.5	4.3	29.3	14.1	4.3	3.3	27.2	10.9
Tetekanji	7.8	15.7	13.7	7.8	15.7	15.7	23.5	0
Marau	24.7	25.9	9.9	4.9	13.6	12.3	3.7	4.9

The Wanderer Bay data reflect the impact of school children. The old Talise district (Duidui, Vatukulau, and Talise) was famous for the number of men who were willing to sign labor contracts, and indeed more than 50 percent of those absent in this area have been reported absent for over a year. In the case of Talise, however, those absent for more than one year came from both sexes and all age groups. Most went to Moli because of the Moro movement and have stayed for relatively long periods. Average lengths of absence from the eastern part of the Weather Coast (especially Marau) are much shorter than appear partly because of the relatively greater importance of traditional factors in migration, and perhaps partly to different patterns of migration during the year.

The average length of time visitors have been absent from their own village also varies greatly from district to district (Table 3.66).

Table 3.66

LENGTH OF TIME VISITORS ABSENT FROM OWN VILLAGE (BY WARD)

Ward	Percentage In Ward Absent From Village < 1 week	1 - 2 weeks	2 weeks- 1 month	1-3 months	3-6 months	6 months- 1 year	1 year & over	Not Stated
Wanderer Bay	36.5	2.5	6.6	13.1	2.9	0	33.6	4.9
Duidui	8.4	12.6	9.5	12.6	10.5	11.6	30.5	4.2
Vatukulau	58.1	3.2	22.6	12.9	0	0	3.2	0
Talise	0	0	46.9	18.8	12.5	9.4	0	12.5
Avu Avu	6.4	8.5	10.6	17.0	2.1	12.8	40.4	2.1
Moli	2.4	4.0	9.1	30.6	7.5	6.0	38.8	1.6
Tetekanji	0	33.3	0	0	0	33.3	33.3	0 (3 persons all told)
Marau	26.4	2.8	9.7	8.3	9.7	1.4	37.5	4.2

In Wanderer Bay there is obvious disagreement between the data for residents absent and visitors present as to how long school children have been away from home. The relatively large percentage of persons away from their home village for more than one year in Marau and Avu Avu reflects the local availability of jobs. The bi-polar nature of the Marau data results from short-term moves being made by residents, and available jobs being held by persons from outside the census divisions. The Moli data are heavily influenced by Moro adherents. Either most of the Moro adherents from outside the Weather Coast have been in Moli for less than one year or the Talise residents absent and Moli visitors present data are in conflict. The Vatukulau data reflect the fact that visitors are present for almost entirely traditional reasons. The large percentage in Duidui indicated as being absent for more than one year is difficult to explain.

The divisional data on how long it had been since those in residence had been out of their own village for more than one day are presented in Table 3.67, although the data's accuracy is questionable.

Table 3.67

LENGTH OF TIME SINCE RESIDENTS PRESENT BEEN AWAY FROM OWN VILLAGE

	Percentage Last Away From Village For More Than 1 Day								
Ward	< 1 week	1-2 weeks	2 weeks-1 month	1-3 months	3-6 months	6 months-1 year	1 year & over	Never	Not Stated
Wanderer Bay	2.1	2.7	13.7	37.9	14.5	7.1	18.1	2.1	1.8
Duidui	.2	4.7	12.4	9.6	5.2	6.8	9.6	48.4	3.2
Vatukulau	.4	1.7	3.7	7.8	2.0	3.9	24.8	54.4	1.2
Talise	.7	5.0	10.5	9.1	3.9	2.3	10.9	41.9	15.7
Avu Avu	.7	3.8	9.1	6.0	2.9	4.4	12.1	50.4	10.4
Moli	4.1	7.5	9.5	2.6	1.0	1.4	66.7	4.1	3.0
Tetekanji	.3	48.8	18.0	2.1	.3	.9	24.6	4.7	.3
Marau	.2	2.0	2.7	1.8	.4	13.9	66.7	11.7	.6

Those wards with greatest labor mobility have very large proportions who reportedly have never left the village for more than one week during their lifetime. Although the highest percentages are absent in Duidui, Vatukulau, and Talise, this in no way indicates the number of moves made. A move of a year's duration ought to be captured in the census but a move of 1 week's duration has only one chance in 52 of being captured. It appears that short-term mobility is least in the areas with the greatest long-term mobility. In Duidui, Vatukulau, Talise, and Avu Avu, most children under 15 and nearly half of the women over 15 are reported to have never left their own village for more than one week. In all four wards, however, most men left their villages at least sometime in the preceding year, which suggests that longer-term mobility has a depressing effect upon the movement of those who remain in the village. The outstanding feature in Moli was that almost all persons of all ages reported being away from the village sometime in their lives but most in all age groups reported not having left the village in the previous year. This is perhaps an indication of the impact of the Moro celebration of October 1972 in stabilizing the village population during the extensive preparations. In Marau, about half the children under 5 years of age have never left the village; virtually everyone else had sometime during their lifetime, but a large majority in all age groups aged more than 5 had not left the village during the previous year. The clustering of responses in the 1 week to 1 month category in Tetekanji suggests large scale circulation of people into and out of the village, perhaps associated with remaining in garden houses during the harvesting of yams. Family groups are involved in such activity, as reflected in the fact that no one above the age of 9 (and only one person in the 5-9 age group) was reported never to have been away from the village for more than one week. The clustering of responses in the range of "2 weeks to 1 month" and "1 month to 3 months" in Wanderer Bay suggests a mass return to the villages in September and October, perhaps also associated with the garden cycle. No one above the age of four was reported never to have been away from their native village for more than one week. The contrast here with Duidui is striking because one might expect these two wards to have similar patterns. The data do suggest that the nature of migration in Duidui, Vatukulau, and Talise is quite different from the patterns on the rest of the Weather Coast, although this conclusion might be tempered by the influence of enumerators.

The subject of employment on the Weather Coast will be discussed fully in Chapter 6, but must be briefly considered here as it is basic to understanding why so many persons are absent for temporary employment. In 1963, those that Bellam (1964:41) interviewed from the Weather Coast indicated that no jobs were available in their home villages. Census data do not indicate the current situation to be radically different. Of 1,629 de facto males who listed their main activity to be raising crops for their own use, 10 reported growing garden crops for sale, 31 were engaged in copra production, 3 were engaged in fishing, 15 operated their own businesses, and 224 were engaged in some form of wage employment. Of the de facto females, 2,150 were engaged in raising crops for own use, 7 raised garden crops for sale, 1 was engaged in copra production, two were self-employed, and 28 were engaged in some form of wage employment. 266 jobs were enumerated on the Weather Coast, or 3.2 per 100 de jure inhabitants, and these were unevenly distributed among the wards (Table 3.68).

Table 3.68

NUMBER OF ACTUAL PAID POSITIONS PER 100 DE JURE RESIDENTS (BY WARD)

Ward	Jobs/100 persons	Ward	Jobs/100 persons
Wanderer Bay	3.6	Avu Avu	6.2
Duidui	2.0	Moli	3.4
Vatukulau	2.7	Tetekanji	1.4
Talise	.6	Marau	8.1

Of the paying jobs available on the Weather Coast, the various types of employers accounted for the following percentages: Local Council 25.2; Church 17.7; Educational Authorities 13.2; Weather Coast Project 12.8; BSIP Government 12.8; Utah Mining Company 6.0; Plantations 5.3; and Retailers 4.2 percent. Employment by the BSIP government was largely concentrated at the subdistrict station in Marau. Fourteen of the 16 employed by the Utah Mining Company were in the Koloula Valley at Chikora (Vatukulau division). Most of the employees of religious organizations were at Avu Avu mission. No fewer than 15 of the 34 Project employees were in Wanderer Bay division, while seven of the 14 plantation laborers were at the Paruru plantation, Marau Sound. Only employment by the Utah Mining Company indicates any interest, albeit somewhat exploitative, in the Weather Coast by an expatriate concern. The majority of jobs in the two divisions with the largest number, Avu Avu and Marau, were held by personnel drawn from outside the Weather Coast.

At the time of the census, some 575 de jure individuals or 6.8 percent of the de jure population, were gainfully employed. The percentages by divisions, were: Wanderer Bay 5.6; Duidui 7.8; Vatukulau 10.9; Talise 3.8; Avu Avu 7.8; Moli 4.5; Tetekanji 4.4; and Marau 5.6 percent. Of those gainfully employed, most do not hold jobs in their own villages (Table 3.69).

Table 3.69

AREAS IN WHICH DE JURE INDIVIDUALS GAINFULLY EMPLOYED (PERCENTAGES BY WARDS)

Ward	Own Village	Other Village in Own Ward	Total Own Ward	Other Weather Coast	Honiara	Other Guadal-canal	Other Central District
Wanderer Bay	26.0	15.1	41.1	0	26.0	17.8	1.4
Duidui	9.4	4.3	13.7	10.1	55.4	12.2	2.2
Vatukulau	4.2	13.2	17.6	6.0	48.5	15.6	3.0
Talise	2.9	2.9	5.9	14.7	70.6	3.0	5.9
Avu Avu	6.9	34.5	41.4	1.8	32.8	17.2	1.7
Moli	18.9	24.1	43.0	18.9	20.8	5.7	0
Tetekanji	0	5.3	5.3	42.1	31.6	15.8	5.3
Marau	11.5	53.1	64.6	21.9	0	6.3	0
Total	6.6	26.3	32.9	10.3	41.2	13.0	2.3

In Marau, there were actually more jobs available than <u>de jure</u> job holders, although approximately a third still found employment in other wards. In other wards, opportunities were much more limited, and those who were lucky enough to find employment in their own wards did not do so in their own villages. Duidui, Vatukulau, Talise and Tetekanji offered few possibilities for employment.

While there is more than an adequate amount of land to support everyone in subsistence agriculture, desired goods such as rice, canned meat, and radios cannot be produced in the traditional context. The annual tax must be paid in money, not goods; schooling on the Weather Coast is not free; and traditional obligations such as bride price have to some degree been monetized. Yet Chapman's (1970) study indicates that few people would permanently leave the Weather Coast for employment if adequate opportunities for earning money were locally available.

Characteristics of Migrants in Areas Outside the Weather Coast

According to the census, 732 residents were away from the Weather Coast on November 27, 1972, and reportedly at the following locations: Honiara 394; "Other" Guadalcanal 240; Other Central District 17; Malaita 26; Western District 28; Eastern District 23 and places outside the Solomon Islands 4.

Honiara did not even exist before 1947. From its modest beginnings as an airfield abandoned by the American military, Honiara grew to 3,548 in 1959, 6,684 in 1963 and 11,398 in 1970 (Bellam, 1970:74). Its rapid growth is due to the concentration of government functions, and almost all Melanesians in town are there temporarily to earn cash. In 1962, Bellam (1964:15) interviewed some 130 Melanesian workers and found that most regarded Honiara simply as a place to work; of 13 persons from Guadalcanal, 10 came from the Weather Coast.

Since the 'fifties, Honiara has replaced the plantations as the major destination of males seeking employment outside the Weather Coast. The age-sex structure of Weather Coast residents absent in Honiara is not typical of the base population, since it is heavily male (311 males; 83 females) and concentrated in the "productive" age groups. There are much higher proportions in the age groups 15-34 who are unmarried than in the Weather Coast population. The average person who went to Honiara is much better educated than his counterpart in his own village at census time. Because the married males heavily outnumber married females, it appears that many married men left their families at home.

Most males were in Honiara for employment reasons, and most females because of their husbands or fathers (Table 3.70). Of the 222 persons for whom an employer was listed, 80 were employed by the Central government, 10 by a local Council, 3

Table 3.70

REASONS FOR WEATHER COAST RESIDENTS BEING IN HONIARA OR OTHER PARTS OF GUADALCANAL AT CENSUS TIME

	Honiara		Other Guadalcanal	
	Male	Female	Male	Female
Schooling	8	4	62	25
Employment	211	18	66	5
Kinsmen/Friends	19	12	16	14
Medical	6	6	1	1
Church	1	0	5	4
Admin. Business	7	2	0	0
Trading/Retail	26	4	0	0
Gardening	0	0	6	4
Moro Movement	0	0	2(?)	2(?)
"Go Walkabout"	6	0	5	0
Accompany family or friends	26	37	7	11
Other	0	1	0	0
Not Stated	1	0	6	2
	311	84	173	67

by an educational authority, 14 by a mission, 2 by the Utah Mining Company, 29 in retail and commerce, 8 in forestry, 4 in fishing, 1 on the Weather Coast Project, 7 in agricultural labor, 34 as domestics, and 26 in other occupations. In 1963 Bellam (1964:95) noted that many domestics in Honiara had come from the Weather Coast and this activity still appears to be an important source of money. No less than 70.9 percent of those for whom a job was listed had been away from their own village for over one year. Thefigure was over 50 percent in each occupation but for government employees, retailers, and domestics was 66.7, 85.2 and 79.4 percent respectively. This does not fit with Chapman's (1970) assertions that most persons are working on contracts lasting from 3 to 6 months. It could be that most of the persons working on short-term contracts had already begun to return to the Weather Coast for garden work and end-of-year festivities. Even 38.2 percent of the persons not gainfully employed had been absent from their own village for over 1 year.

Weather Coast residents who have left for other parts of Guadalcanal than Honiara tend to be younger than those going to Honiara, single, and male (173 males; 67 females). Table 3.60 explains the high proportion of adolescents, in that many of those belonging to SSEM and Anglican denominations must leave the Weather Coast if they are to receive senior primary education, as must all seeking secondary education. Those going to other parts of Guadalcanal tend to marry at a later age than those who remain in the village, and are much better educated than those who stay at home.

The large majority of males on the northern side of Guadalcanal who are not receiving an education are there for employment. On the other hand, most of the females absent for non-educational reasons are accompanying husbands or fathers. Employers were listed for 70 persons residing north of the Weather Coast; of these, 10 were employed by the Central Government, 5 by a Local Council, 1 by an educational authority, 21 by a mission, 6 in forestry, 22 as agricultural laborers, 4 as domestics, and 1 was unspecified. Although the plantations were the single largest employer, data collected c. 1950 would have shown many more employed on plantations. No one was listed as being employed in retail activities, although Chapman (1970:123) discovered that a number of Duidui residents were working for traders in north-west Guadalcanal (Visale area). 42.8 percent of those employed had been away from their villages for more than one year while among agricultural laborers, 27.2 percent had been away for more than one year and 40.9 percent for 6 months to 1 year. This may indicate a trend toward shorter terms of agricultural employment, particularly when the employer is a Solomon Islander. Of those not gainfully employed, 38.7 percent had been away for over a year and 20 percent had been away for 6 months to 1 year. The figures partly reflect the distance between the schools on the north coast, and the students' homes on the Weather Coast.

The number away on other islands is quite small. Only 17 were in other parts of Central District, which indicates considerable change since the early 'sixties when the Talise area was regarded as a prime source of wage labor for coconut plantations in the Russell Islands. Of the 17 on other islands (15 males; 2 females), employment was listed for 13, and education for 2. Of the 12 for whom type of job was listed, only 7 were employed as agricultural laborers. This is a dramatic indication of the decline over the past decade of the role of the Weather Coast population in plantation labor. At the time of the census, only 49 (or 8.5 percent) of the de jure gainfully employed labor force were employed in agricultural labor. This figure is dwarfed by the 117 working for the BSIP Government, 79 for local governments and 75 employed by the missions. It is almost matched by the 44 (20 from Duidui) who work as domestics and the 39 who are employed in retailing. The growth of Honiara is probably responsible for these changes in the structure of the labor force.

Chapter 4
FAMILY LIMITATION AND ATTITUDES TO POPULATION CONTROL

Previous attempts to obtain information from Pacific Island societies about attitudes towards population control range from the superficial to the notably unsuccessful. With these inauspicious precedents in mind, an attempt was made to elaborate the fertility data obtained in the project census by conducting both a formal, site-specific fertility survey in the Ko'o and Birao language areas (Fig. 2.1) and intensive, open-ended interviewing in a number of Bota Moli villages. The formal fertility survey aimed to elicit information on contemporary knowledge, attitudes, and practice whereas the interview technique was crucial in reconstructing pre-contact fertility behavior and expanding upon subjects covered by the survey. Some information also was obtained from other project sites through the use of check lists.

Fertility Survey

Ko'o and Birao, the two areas covered by the fertility survey, were chosen because of their considerable difference. With an almost entirely bush population of 410, the Ko'o area is and always has been the more homogenous of the two. Centered around the Koloula Valley and extending coastward to include the village of Inakona (Fig. 2.1), this locality is isolated and has little contact with Honiara. Its people, both bush and saltwater, belong to the South Seas Evangelical Church (SSEC) and formal educational levels are uniformly low.

The Birao is, by contrast, perhaps the most heterogeneous area on the Weather Coast. From AvuAvu in the west to Kopiu Bay on the east and extending inland to the crestline, the survey in-

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cluded a sizeable bush and saltwater population of approximately 3,000.[1] Traditional bush/saltwater differences, coupled with varying response to a range of European influences, and the unique indigenous changes wrought by the Moro Movement, make this region ideal for comparison with the Ko'o.

The fertility survey contained questions that were directed toward an individual in the village setting. The schedule was designed with an interest in measuring attitudes as well as fertility levels and knowledge of pregnancy prevention methods, with questions asked about traditional as well as introduced methods and practices. A draft schedule, in English, was pretested in a village on northwest Guadalcanal; a revised version, translated into the relevant dialects, was pre-tested on the Weather Coast before the final version was produced.

Local speakers in each language area conducted the actual interviewing, asking questions only of those of the same sex. Selection of the interviewers was based on the individual's familiarity with the area covered by the survey, their ability to read and write their own language, and their acceptability to the communities to be surveyed. With the assistance of those who translated the schedule into each language (Ko'o and Birao), an intensive training program for the interviewers was held.

An important element in initial training was the pre-test of the first translated version of the schedule. This pre- test revealed two serious difficulties: first, the manner in which interviewers misunderstood the questions; and second, bewilderment on the part of respondents, coupled with an unwillingness to discuss some subjects. Further training corrected the first area of difficulty, with much time spent on multiple choice questions with which most interviewers (including the local speakers assisting with training) experienced problems.

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[1] Population figures according to 1972 project census of the Weather Coast.

The second deficiency was less easily resolved. Many subjects such as knowledge of traditional methods of abortion and pregnancy prevention, were sensitive and it was felt that many answers would not be completely candid. In addition, the general tendency was to give as little information as possible, so that the typical response to an open-ended question like "What are some reasons why a couple would want a large family?" was "I don't know." Interviewers were instructed to probe on such questions and ask them several times but it is suspected that, in their zeal, several of them suggested appropriate answers. It was realized, however, that in such virgin survey territory one of the aims was to determine what kinds of questions could be asked, what kinds of information could be elicited, and under what circumstances other research tools were preferable. Even the final survey itself was in this sense a pre-test.

Sample Size and Characteristics

Because the exact populations of the survey areas were not known, a random sample was impossible. In both Ko'o and Birao, clusters of population concentration, usually large villages or groups of smaller villages, were chosen with an attempt to include as many geographic and social variables as possible. In the Birao area, there were thirteen such concentrations located on the coast and in the bush and covering all religious faiths. A total of 142 men and women were interviewed, 103 (3.6% sample size, using subsequent results from the Weather Coast census as the referrent) from Birao and 39 (9.5% sample size) from Ko'o. Each interviewer covered a number of villages and in each village was asked to obtain wherever possible a specific number of "young" (age 15-30), "middle-age" (30-45), and "old" (45+) interviews. These guidelines were not strictly followed, however, since in many of the smaller villages representatives of one of the age groups might not have been present or have been unwilling to be interviewed.

As seen in Table 4.1, the survey covered women outside the child bearing years as well as those within the conventional span of 15-49 years. The mean age for both sexes was 33.9 years and the median age also falls within the 30-34 year range. The mean age for women alone was 30.8 years, and for men 39.0 years. Five Christian faiths, the Roman Catholic, Anglican, South Seas Evangelical Church (SSEC), and Seventh Day Adventist (SDA) were represented amongst those interviewed. Since all Ko'o respondents belonged to the SSEC, it was among the Birao that this range of denominations was found. Overall, 46 per cent of those interviewed were Roman Catholic, 32% SSEC, and 18% Anglican, but in the case of the Birao these figures rise to 63 per cent Roman Catholic and 24 per cent Anglican, but only seven per cent SSEC.

Out of a total of 142 interviewed, 70 had been to school. The median level of formal education was three years, in most cases at a Junior Primary School (see Chapter 7). By area, a tenth of the Ko'o respondents had had schooling in contrast with 65 per cent of the Birao. For this reason, the Ko'o have been deleted from subsequent tables in which education is a key variable for analysis.

Table 4.1

AGE DISTRIBUTION--FERTILITY SURVEY RESPONDENTS

Age	Females	Males	Total
15-19	20	2	22
20-24	16	4	20
25-29	10	4	14
30-34	15	14	29
35-39	5	9	14
40-44	8	6	14
45-49	7	2	9
50-54	4	3	7
55-59	2	3	5
60+	2	6	8
Total	89	53	142

Ko'o women: 80% aged between 15-34 years
Birao women: 64% aged between 15-34 years

There were no divorced persons and only three widowed males in the entire survey population. Eighty-four per cent of the females and 78 per cent of the males were married, with the remainder never married. For most of those married, it was their first, but 12 per cent were in their second or third. Since Weather Coast people tend to remarry quickly after being widowed or divorced (Chapman, 1969:125), there were very few widowed or divorced persons in the survey. Mean age of first marriage for men was 22.6 years, compared with 19.2 years for women and by the end of their twentieth year 85 per cent of the females but only 49 per cent of the males were married. If the survey population is divided into three age categories, there is a progressive diminution of age at first marriage (Table 4.2).

Table 4.2

MEAN AGE AT FIRST MARRIAGE BY AGE CATEGORY

Present Age	Age at First Marriage (Mean)
Less than 30 years	19.0 years
30-44 years	20.9 years
45+ years	21.6 years

The Woman and Child

Seventy-four percent of the females interviewed had borne one or more children and the similarity of their responses permits a characterization of the Weather Coast woman and her children (excluding the patrilineal 'Are'Are: see Chapter 2). The village woman delivers her child inside the house. Generally, one or more female friends assist her at time of birth, although a few women deliver alone or with the aid of their husbands. These female assistants are usually a blood relative or the woman's mother-in-law. As the woman is most often living in the village of her husband, it is common for her mother-in-law to be present at childbirth. If no such relatives are available, then women of the same "line" and of similar age, who also have had children, will generally help. The child is breast fed for varying lengths of time depending upon external factors, of which the most important is becoming pregnant again, but on the whole, the breast feeding of each child ceases after about two years.[2]

The average woman bore her first child at the age of 21 years,[3] two years after marriage. Most village women have four living children by the time they reach the age of 45 and also have had one child die. Cause of death is very likely to be ascribed to vele or the devil; another important cause is "belly soa" or gastro-enteritis. In the Ko'o area, causes of subsequent death were noted wherever possible on the pregnancy record form. The most frequent reply was either "the devil killed him" or "vele" (poison was often included here). For example, one woman aged 41 had borne seven children, four of whom had subsequently died, and reasons for death were noted as:

> The devil took him
> She was caught
> Diarrhea
> The devil took him

As Hogbin (1935:25-7) has suggested, most deaths are probably attributed to vele when the mother, herself, can see no direct cause (see also chapter 2).

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[2] There was no notable difference in length of breast feeding time when related to present age of mother:

	Length of time for breast feeding oldest child						
	0-½	½-1	1-1½	1½-2	2-3	3+	NS
Number of Women	0	10	4	17	19	6	8
% of Women		18	7	30	34	11	

[3] Mean age at first birth: 21.2 years; median age at first birth: 20 years. Responses to the question concerning age of women at first birth covered a range of 13-37 years. There was no particular variation of this age according to present age of woman.

A pregnancy record form was used to follow the progression from number of pregnancies through fetal losses and subsequent deaths to establish the number of children still living for each woman (Table 4.3). As Bogue and Bogue (1970:142) have said, pregnancy history data is characterized by an under-reporting of pregnancies, since women tend to forget those that occurred long ago, especially if they ended in fetal loss or if the child subsequently died at a young age. An attempt was made to reduce such information loss through the use of interviewers who lived in the survey area and who, knowing the person being questioned, could stimulate fading memories. Furthermore, interviewers were trained to begin with the last pregnancy and work backward, encouraging the woman to report each pregnancy whether completed successfully or not.

The pregnancy history data show that more than half the women have borne their first birth before the age of 21. The median age at first birth for women less than 30 is 19 years, whereas for those more than 40 the median is 23 years. This suggests a trend towards earlier reproduction. There is a parallel trend toward earlier marriage, since the average age of first marriage is 19 for both men and women aged less than 30 compared with 22 for those aged more than 45. At the time of the survey seven women were pregnant, or 12 per cent of those ever married women aged 15-44 years; for the Tongan KAP survey, the comparable figure was 14 per cent (Wolff and deSanna, 1970:18).

Knowledge and Practice of Methods for Limiting Number of Children

Only eight out of 142 replied affirmatively to the question, "Suppose a woman in this village wanted to keep from getting pregnant: do you know if there is any custom medicine that she could take?". Intensive interviewing, to be described in a subsequent section, reveals Weather Coast people to be at least familiar with custom practices, but those in the survey were unwilling to reply to this question. There are two other possible reasons for this

Table 4.3

PREGNANCY HISTORY DATA FOR WOMEN IN FERTILITY SURVEY

	Present Age of Women								
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59
Mean Number of Pregnancies	0.2	2.1	3.4	3.8	6.8	5.2	5.6	5.0	7.5
Mean Fetal Deaths	0.0	0.2	0.1	0.0	0.6	0.0	0.2	0.0	0.0
Mean Number of Births	0.2	1.9	3.3	3.8	6.2	5.2	5.4	5.0	7.5
Mean Subsequent Deaths	0.0	0.1[a]	0.3	0.4	0.0	1.1	1.3	0.8	0.0
Mean Surviving Children	0.2	1.7	3.0	3.4	6.2	4.1	4.1	4.2	7.5

[a] Differences are due to rounding

overwhelming lack of knowledge: one is that when translated into language, the question implied a working knowledge of how to prepare and administer the medicine, or an actual use of such medicine; and secondly, there may have been a reluctance to admit any knowledge about custom medicine when the interviewers were often close associates.

By contrast, 27 individuals claimed to have heard of Western methods to prevent pregnancy. Since this number included only one person from the Ko'o, a quarter of the Birao population surveyed claimed knowledge of one or more Western methods of birth control (Table 4.4).

Table 4.4

KNOWLEDGE OF WESTERN BIRTH CONTROL METHODS

Type	Number having knowledge
Pill	16
Tubal Ligation	12
Condom	1
IUD	1
Rhythm	0
Withdrawal	0
Douche	0
Vasectomy	0
Breast Feeding	0

The prevalent awareness of two methods, the pill and tubal ligation, reflects a cluster of people from the same village. There are some women in the Birao area, for example, who have had tubal ligations. All of these women had had their last of many children in Central Hospital, Honiara, and while the tubal ligations were done for medical rather than for strictly family planning reasons, nevertheless it is not surprising that others in their village would be more familiar with this introduced method than any other.

Almost an equal number of men and women knew some Western methods. There was a definite tendency for older men to have such knowledge, as opposed to the younger ages for the females, the majority of whom learned about preventing pregnancy after marriage. It is intriguing that the most cited informant concerning Western methods was the custom medicine man, which raises questions about the contemporary role of the custom medicine man in Weather Coast society.

When asked if any women of the village are presently practicing birth control, 23 out of 142 answered "yes: a few women." Only one woman said that she herself had ever used a method for delaying or limiting pregnancy, while another two men claimed to have used either a custom or western method. Although definite conclusions are impossible from such limited information, there nevertheless appear to be more attempts to control family size than the individual women are willing to admit, which reluctance in turn fits with the social attitude towards such discussion and was also met in formal interviewing.

Eighty-five per cent of all respondents agreed that they did not know "all that you need to know about preventing or delaying pregnancy", which indicates a general feeling that they would benefit from more information concerning methods for limiting or preventing pregnancy. Because of the question's sensitivity, only one concerning custom ways of abortion was asked. In response, ten Birao individuals admitted having knowledge about custom methods of abortion, six of whom further knew from whom such information could be obtained and what it cost.

Reconstruction of Pre-Contact Fertility Mechanisms

In an attempt to reconstruct the pre-contact patterns of fertility control, intensive interviewing was undertaken in the Birao area (Fig. 2.1), centering upon the village of Makaruka, the nearby coastal communities of Bokasugu, Komuvaolu, Nakili, and Sukiki, and the peripheral bush village of Uluchari (Fig. A6). Although an attempt was made to probe as many social and demographic variables as possible, the 23 males and 22 females interviewed in no way constitute a random sample of the total population. The type of information desired and the sensitive nature of the topic limited those questioned to individuals who were well known to, and had established good rapport with, the researchers.

The interview format was informal and free flowing, encompassing general subject areas rather than specific questions. If a person was responsive to a particular subject, or raised it, then that was pursued and often used to indirectly introduce more relevant--and more sensitive--issues. For example, when asked directly about food shortages in the pre-contact period, all the older informants stated that none occurred. In a discussion of pre-contact warfare, however, one person replied without prompting that a major cause of warfare was frequent food shortages and the resultant stealing from neighboring villages: this topic was then pursued in detail.

During the pre-contact and early post-contact period, fertility and mortality levels were similar to most other preliterate, non-urban societies and characterized by high fertility, high mortality, and a low but stable rate of population change. In a social context, fertility was viewed as neither sacred nor inevitable but rather as a variable that could and should be manipulated. Social mechanisms existed to both limit and aid fertility, the use of which was influenced by a wide variety of social, economic, and health factors.

The most important social means of effecting fertility was a strong stricture against sexual intercourse following the birth of a child. Immediately a child was born, the husband would begin sleeping in a men's house, or <u>luma</u>. Social intercourse with his family, like eating or going to the food garden, was not proscribed but sexual relations with his wife were, at least until the child could walk. The period of post-partum taboo seems to have ranged from two to four years. The most important reason for abstention was the belief that sexual intercourse too soon after birth would affect the child's health, causing it to be weak and sickly. Later in life, also, the child would be lazy and not want to work in the garden. A second reason was the conscious belief that children should be spaced so as to lessen the burdens on the mother, such as breast feeding more than one child and the difficulties of caring for small children when in the food gardens. Consequently a mother would not have another child until the youngest was not only weaned but also able to begin looking after itself. Although villagers "knew" when a couple had violated this norm, because their youngest child would become ill and weak, and although they would frown upon such behavior and gossip about it, the primary mechanism enforcing post-partum taboo was an internal feeling of guilt rather than an external sense of shame or fear of being discovered. A couple obeyed the rules because "they loved their children," a positive reason, rather than from fear of external social reprisals or condemnation.

Infanticide was practiced, most commonly for medical reasons. A child born blind or deaf, or with a serious physical malformation or illness, would be killed. Less commonly, in times of economic hardship, parents might kill a child for whom they thought insufficient food was available. There are also indications that, in the case of a multiple birth, only one would be allowed to survive, but without sexual discrimination. Smothering or drowning were the most common methods used for infanticide and in all cases it was parents in consultation with close "line" and blood relatives that made the decision, rather than a larger social unit like the village.

Abortion was frequent in cases of unwanted pregnancy, particularly among unmarried girls. Methods varied, from the physical, such as placing hot stones on the abdomen, to traditional medicines, to practices bordering on magic such as words spoken over the woman, usually in conjunction with custom medicines. Knowledge of methods of abortion was widespread among both men and women, but there were apparently no specialists even though one individual might have knowledge of only one or two particular methods. Although prevalent, abortion was not socially condoned, nor was knowledge of abortifacients openly admitted. A pregnant girl, or a boy looking for an abortifacient for a pregnant girl friend, would go secretly to someone who was unrelated to that girl by "line" or blood and who "knew" and sold such information. Such a "practitioner" might be in one's own or another village, but payment was made only if the method were successful. In at least some parts of the Weather Coast, including the Birao (Fig. 2.1), pre-marital sexual liaisons were common, although not condoned, and explain the general awareness about abortion. The controlling mechanism in this case was fear of being discovered and the social recriminations that would follow rather than a sense of guilt stemming from the act itself.

In addition to abortifacients, a smaller number of methods existed to prevent pregnancy that could all be grouped under the category of traditional medicine. In a few, apparently rare cases, and for unknown reasons, a young girl would be given a medicine that would make her infertile, either permanently or until another medicine was given to counter the effect of the first. Likewise, a prostitute (<u>rembi</u>) would take custom medicine to make her infertile. The two uses do not, however, seem to be related and a young girl was not given such medicine in anticipation of her becoming a prostitute later in life. One possible reason for such accounts of infertility induced by early adulthood is that, at least in some cases, an older and barren woman would falsely claim to have been given such medicine in order to explain her own condition.

As well as the large number of methods to limit births, there were a smaller number of custom medicines and magical chants that aided or induced fertility. A husband worried about his wife's barrenness, for example, would wrap a bird's nest in a vine and place it in a location where she often walked. As soon as she had passed over it, he would place the bird's nest and vine in a spring and chant over it. The traditional medicines that effected pregnancy consisted of a wide variety of leaves, barks, and juices, used both singly and in combination (see Appendix). All were administered orally. Although their efficacy has not been established by Western scientific methods, the people themselves are firmly convinced of that, not only of the medicines but also of methods that can be considered magic.

Delayed age at marriage also played a role in reducing potential fertility although not to the extent of other mechanisms already described. The male was not considered ready for marriage until several years after shaving had begun and he had proven himself in garden work; the woman was ready in the late teens, when "her breasts started to sag." Such views were reinforced by kinship restrictions. An individual could not marry within one's own "line" (the practice of exogamy) or marry consanguineal relations through at least the grandparental generation. Given the small size of most villages and the difficulty of travelling to others, such restrictions effectively limited one's choice of a mate. Consequently it was not uncommon for marriage, for both sexes, to be delayed for several years beyond the onset of social acceptability.

The absence of a literature on pre-contact demography in the British Solomons makes it difficult to assess the significance of conclusions resulting from the Makaruka-Bokasughu interviews. Reference to numerous studies made in nearby New Guinea provide, however, a partial solution to this problem. Bulmer (1971) has synthesized the literature on voluntary fertility control in a number of New Guinea societies and found none that do, or did not have cultural norms that reduce fertility.

A post-partum taboo appears to have existed in all New Guinea societies, but varied in length from a few months to over four years (Bulmer, 1971:145; Ogan, Nash and Mitchell, n.d.:62). A common practice was to delay intercourse with the mother until the youngest child had been weaned. Bulmer (1971:147) believes that the length of post-partum taboo reflected whether or not domestic and gardening duties were performed cooperatively, being longest where a woman was solely responsible for tending both family and household gardens. The most common rationale for this taboo was that the children's health would be dangered without adequate spacing and in many societies, including the eastern Solomons, polygamy, prostitution, and homosexual relations were institutionalized to limit the sexual frustrations experienced by males (Davenport, 1965).

Bulmer (1971:153) also reports that some cases of infanticide probably occurred traditionally in every New Guinea society, but in general the practice tended to be limited to one of a pair of twins, to deformed infants and, more generally, to illegitimate children. In the case of twins, it was almost always the female who was selected and a female baby was sometimes killed if the parents had wanted a male. Abortion was practiced in all New Guinea societies, despite the fact that many disapproved of the practice.

Early marriage also was the rule, but spinsterhood was very uncommon. However, many women became widows during their reproductive years and many societies prescribed extended periods of mourning for them or resolutely prohibited their remarriage, which in turn could have significantly influenced average family size and fertility rates. A few societies also prohibited intercourse in the first few months of marriage or, more generally, on certain occasions like feast days, but the impact of such proscriptions upon the birth rate is likely to have been minimal.

Contraceptives, in the form of ingesting various herbs believed to inhibit conception, have been reported for many societies. While the effectiveness of these herbs is open to question, nevertheless their use indicates a general desire to control pregnancy, as do descriptions of coitus interruptus and vaginal insertions that exist for a small number of societies (Bulmer, 1971: 151). In brief, the conclusions from the Weather Coast interviews parallel closely those synthesized for a range of New Guinea societies. In addition, Hogbin (1964) found that prostitution and polygamy were institutionalized among the Kaoka speakers of North Guadalcanal, whose social organization is akin to the Birao of the Weather Coast (Fig. 2.1). This fragmentary and often elusive information, when pieced together, suggests considerable congruence between mechanisms of fertility control amongst the Weather Coast population and other Melanesian societies.

Although it is difficult to estimate the incidence of the various mechanisms that could affect pre-contact fertility, it is nevertheless clear that the levels of usage varied with changes in the economic, social, and health environment of which they were part. The economic situation at any one time, as related to population pressure and the carrying capacity of the land, was reported to have been particularly important. The populations of Makaruka and surrounding villages, on the coast and in the bush, were more numerous just prior to contact than nowadays, although it is impossible to say with any degree of accuracy just how much so (see Chapter 2). The present population of approximately 800 within an hour's walk of Makaruka and the surrounding area is supported comfortably by the land, with little food imported. Older informants in the Makaruka-Bokasugu area were emphatic that conditions just prior to contact were much different. Each garden was smaller in size than today, because of the difficulty of clearing and cultivating land with stone implements, yet the larger population necessitated a greater total amount of land to be included within the agricultural system, whether actively cultivated or in bush fallow (see Chapter 6). Thus many gardens were farther away from the village than at present. In addition, one of the staples of contemporary Weather Coast diet, the continuously producing kumara, was introduced by Europeans and unknown in pre-contact times. From this, it is certain that food shortages occurred, not only because of extreme weather conditions (see Chapters 2 and 5) but also because of the greater population, limited technology, and more limited variety of foods.

The stealing of food, both from another village's gardens and from gardens within one's own village, was common in Makaruka and at least one other village in the adjacent area (Bokasugu), it was, in fact, one of the main causes of warfare. Organized raiding parties were considered such a threat that groups leaving the village for the food gardens were often accompanied by guards. One indication of variations in food availability was the existence of a custom medicine that was placed in a cooking fire to increase the amount being prepared. This medicine is still known today and apparently used on occasion in Makaruka, but there is an extreme reluctance to discuss it. Results of interviewing older men and women in the Makaruka-Bokasugu area clearly indicate that such economic factors had an effect on fertility, for during times of extreme hardship the incidence of infanticide would increase, couples would delay marriage, and a man would extend his stay in the luma.

Social attitudes similarly helped shaped fertility patterns. Births outside of marriage were not condoned, although it was the mother rather than the child who suffered the social stigma, so an unmarried pregnant girl would search for an abortifacient. A child born with a physical disability, or a severe medical problem, would be killed. Yet other factors operated to insure that sufficient children, of both sexes, were born to guarantee survival of the social unit. If a child died in early infancy, for example, the husband would immediately terminate his stay in the luma and resume sexual relations with his wife. To have children was good, and a couple should have as many as the constraints of the system would allow.

Although the use of the term "family planning," in a Western sense, would be unjustified, it is nevertheless true that a remarkable number of what outside observers view as mechanisms to limit fertility were consciously used precisely for that purpose and their practise limited by well defined and universally understood conditions. The decision to kill a child, induce an abortion, or delay a pregnancy was a deliberate one with, in most cases, a specific and known stimulus. Thus fertility patterns were culturally defined by conscious dicisions, that in turn reflected contemporary events and were made within the constraints of a fairly broad social framework.

Given this conclusion, it is not surprising that those pre-contact or early post-contact birth rates which are known for Melanesian societies are quite low. The questioning of older women among the Nagovisi of Bougainville (Fig. 1.1), a population not penetrated by Europeans until the 1930s, indicated intervals of about five years between each birth during the years 1925-44 (Ogan, Nash and Mitchell, n.d.:15). The Chimbu of Highland New Guinea, a society not discovered until 1933 and apparently not suffering from venereal diseases, nevertheless had a recorded and apparently accurate birth rate of about 28 per thousand in 1962 (Brown and Winefield, 1965:181). Indeed, women aged 46 and more report having borne an average of only 2.3 children who survived for one year or more. If, about the time of contact, the average Weather Coast woman married at age 22, became pregnant almost immediately, and observed a post-partum taboo of three years, then her births would be spaced about four years apart. If she remained fertile until the age of 45, then she would have borne six children. In reality, the average number may have been closer to 5.5 children because of some sterility, spontaneous abortions and stillbirths. This suggests a birth rate of about 40 per thousand, assuming an average life expectancy of 25 years in the female population -- an estimate which is, however, highly conjectural.

Contemporary Attitudes Towards Fertility

Results from both the formal fertility survey and intensive interviewing indicate that while previous fertility patterns have been significantly modified since European contact, nevertheless contemporary attitudes toward fertility are little changed from pre-contact times. Presentday differences that do exist between the Ko'o and the Birao seem to result from traditional bush/saltwater disparities and to variations in contact with Europeans.

Ideal Family Size

Except for young adults with at least six or seven years' schooling, the concept of ideal family size is not well understood. Without exception, none of the 142 individuals interviewed had discussed desired number of children with their spouse either before or after marriage; it is the cultural norm to have "many" children and nothing more specific can be said! Reasons given in favor of having large or small families indicate the strong cultural bias in favor of the former. A man would want a large family primarily for welfare and economic reasons, to provide security in old age and to assist with garden work: "If there are more people, there will be more gardens" (positive reasoning), whereas a small family would be desired only if there was unwillingness to work hard to support many children (negative reasoning). In real life, even given this ideal, it is realized that children impose burdens on parents, particularly on the wife. It was not uncommon for married persons to indicate that while it was desirable, in general, for a couple to have many children, they themselves only wanted 3 or 4 because of the demands upon garden work and feeding many children.

There were no indications that non-traditional considerations, such as the cost of schooling, helped shape fertility attitudes. There were no age, sex, bush/saltwater, or religious differences in attitudes toward family size nor any apparent discrepancy between traditional and contemporary attitudes. None of the forces of social change that resulted from European contact seem to have had any impact upon values about family size, apparently because those traditional to the Weather Coast were not significantly different from those of Europeans, particularly missionaries, with whom they have come into close contact.

Child Spacing

Unlike attitudes toward family size, the concept of child spacing is understood and can be well articulated by any adult member of the community. As in pre-contact times, it is almost universally believed that sexual relations between spouses too soon after a birth has occurred harm the health of the baby and that, secondarily, children should be spaced in order to minimize the burden on the mother. More recently, some modifications in behavior have occurred, particularly on the part of husbands. Because few lumas are still in use, the husband will typically sleep in a relative's house for a week to ten days after the child is born and then return to his own. Although now at home, nevertheless he will abstain from sexual relations with his wife for six months, at an absolute minimum, to one and a half years — apparently a shorter period, on the average, than observed during the pre-contact period. Rather than reflecting a change in basic attitudes, however, it is more likely that this reduced time of abstinence results from the removal of extraneous factors (like economic hardship) that formerly caused a man to spend up to four years in the luma. The present length of abstinence may thus represent the traditional minimum.

An apparent modification of the traditional post-partum taboo can be found on some parts of the Weather Coast, notably in the Duidui area, and perhaps the peripheral bush of Tetekanji. After the birth of a child, the husband will leave home to wage labor for a period that roughly corresponds with the customary length of abstinence from sexual relations with his wife. The exact length of time may vary depending upon the extent to which this absence is the function of other factors, such as the desire to earn money. Although not unknown, the practice is not common in and around Makaruka.

The age of the husband does not seem to be an important factor in determining the length of abstinence, although there are indications that young, educated adults (Standard 6-7) are beginning to question its basis: that is, the effect of sexual relations on the health of the youngest child. All those interviewed were aware that a reduced length of post-partum taboo would shorten the interval between children and some concern was expressed over the indirect consequences, the added burden imposed on parents, that would result from such a change in behavior.

Results of the Birao survey reveal no significant difference between the sexes of the desired interval between children: the mean interval for all males was 2.56 years and for all females 2.89 years. Level of education, however, seems to have some influence. The desired mean interval for all those who had received any kind of formal education was 2.48 years and for all those with no education 3.03 years — a significant difference if the sampling difference is an accurate reflection of actual differences in the population. If it is assumed that the attitudes of those with no formal education conform more closely to traditional attitudes than those who have had some, then it might be possible to hypothesize that education, or at least the type available to Birao speakers of the Weather Coast, changes values in such a way that may increase fertility levels. The notion that, as educational levels rise so age at first birth decreases, did not however gain conclusive support from analyses of the 1972 project census and the proposed relationship requires more careful study.

Pregnancy Prevention

Among the Birao surveyed, attitudes toward methods of pregnancy prevention, whether traditional or Western, are overwhelmingly positive with no important age, sex, education, or bush/saltwater differences. Attitudes among the Ko'o speakers are, however, totally negative, although a breakdown by religion for both the Birao and the Ko'o indicates this conspicuous contrast is more complex than appears at first glance (Table 4.5).

Table 4.5

Question 23: "SUPPOSE YOU HAD A FRIEND WHO HAD 5 CHILDREN AND WAS DOING SOMETHING TO KEEP FROM HAVING MORE CHILDREN: WHAT WOULD YOU THINK OF THAT?"

By Language

	Birao	Ko'o
Generally Positive	72% (72)[a]	0% (0)
Generally Negative	28% (28)	100% (37)

By Religion (Birao only)

	Catholic	Anglican	SSEC	SDA
Generally Positive	71% (46)	76% (19)	86% (6)	25% (1)
Generally Negative	29% (17)	24% (6)	14% (1)	75% (3)

[a] For this and subsequent tables, actual number of responses follow the percentages in parentheses.

The totally negative replies from the Ko'o, all members of the SSEC, are not consistent with the generally positive responses from the Birao who belong to the SSEC, four out of seven of whom, although now resident in a Birao-speaking area, are originally Ko'o speakers from the Koloula Valley! It may be that, removed from a completely SSEC environment, the Ko'o speakers revert to more traditional attitudes.

The pattern of responses to other questions about pregnancy prevention is more consistent, with the SSEC adherents resident in the Birao area replying little differently from either the Ko'o SSEC or members of other faiths amongst the Birao (Table 4.6).

Table 4.6

Question 32: "IF YOU HAD A FRIEND ABOUT TO BE MARRIED, DO YOU THINK THAT SHE/HE SHOULD TRY TO LIMIT THE NUMBER OF CHILDREN?"

	Birao	Ko'o
Yes	16% (16)	0% (0)
No	84% (86)	100% (39)

Question 22: "SUPPOSE A COUPLE IN YOUR VILLAGE WANTED TO GET MARRIED, BUT FOR SOME REASON THEY DIDN'T WANT TO HAVE ANY CHILDREN, BECAUSE THEY DIDN'T HAVE ENOUGH MONEY, OR ENOUGH FOOD TO FEED ANY CHILDREN OR SOME OTHER REASON. DO YOU THINK THEY SHOULD:

	Birao	Ko'o
Delay marriage until they could afford children	94% (95)	0% (0)
Get married and do something to keep from getting pregnant	4% (5)	0% (0)
Get married and accept the consequences	2% (2)	100% (39)

In fact, the survey results for the Birao are supported by the intensive interviews: pregnancy prevention is not simply acceptable but in fact desirable as an aid in spacing children and after a woman has completed her family. A newly married couple, however, should have a child as soon as possible and conclusions derived from both research methods indicate that individuals are not expected to marry until they feel they can adequately support and care for children.

Abortion

Abortion is one of the few topics in which Western contact appears to have significantly modified customary attitudes in both language areas. Attitudes toward abortion are, as in pre-contact times, overwhelmingly negative, but the intensity of this feeling is less for the Birao (Table 4.7).

Table 4.7

Question 33: "SUPPOSE A MARRIED WOMAN IN YOUR VILLAGE WAS PREGNANT AND DID SOMETHING TO CAUSE AN ABORTION: WHAT WOULD YOU THINK OF THAT?"

	Birao	Ko'o
Generally Positive	24% (24)	0% (0)
Generally Negative	76% (78)	100% (38)

By Religion (Birao only)

	Catholic	Anglican	SSEC	SDA	Bush	Saltwater
Generally Positive	15%(10)	52%(13)	13%(1)	0%(0)	38%(10)	18%(14)
Generally Negative	85%(54)	48%(12)	87%(6)	100%(5)	62%(16)	82%(62)

This variation is almost certainly due to different qualities, and perhaps quantities, of missionary influence, rather than to traditional attitudes, even though people living inland appear more tolerant of abortion.

Interviewing in the Birao area corroborates these survey results. There was a general reluctance to discuss abortion, not only for traditional reasons but also because of strong opposition from the churches to the practice and because "it is against the law." In brief, Western attitudes and practice are in agreement with, and have reinforced, the traditional. Although both men and women agreed that knowledge of abortion was "women's business," all information about specific abortifacients and methods was obtained from men. On other parts of the Weather

Coast, however, especially in Duidui, some information was obtained from women.

Three men in the Birao area--one in Makaruka, one in Bokasughu, and one in Balo (Fig. 2.1)--admitted to know of a specific abortifacient and said that women had approached them to ask for it. In no case did they belong to their own village, nor were they in any way related. "About four" women had approached the Bokasughu man during the previous year from Naho, Makaruka, and Sukiki, while "many" women from Makaruka and the Kopiu Bay area (Fig. 2.1) had visited the man from Balo, who also felt that Sukiki, a half an hour's walk from Balo, was "too close" to discuss the question with any woman who asked. In most cases these women were middle aged and felt they had borne sufficient children. All three men were emphatic in denying ever giving information to any of them.

Ten men, in addition to the above, admitted specific knowledge of one abortifacient but none to having been approached by women. All stated that, if asked, they would not provide such information. All those interviewed agreed that "some" women were still using custom abortifacients, but no one admitted to being aware who these women were or who was providing them with information. It was felt, however, that if a married woman was childless for more than three to five years, then she was certainly doing "something."

Infanticide

Even more than for abortion, traditional and introduced attitudes regarding infanticide coincide, although it is probable that Western contact has influenced customary behavior far more than traditional attitudes. It is certain that the incidence of infanticide has been sharply lowered because of opposition from the churches and government and it is likely that the practice has all but disappeared over the past 20-30 years, at least along the coastal parts of the Weather Coast. There are indications, however, that attitudes may not have changed as much as actual behavior: one person, for example, a 16 year-old girl from the Malagheti area (Fig. 2.1) and a twin, stated that her parents seriously considered killing her sibling.

Age at Marriage

Intensive interviews in the Birao area indicates a strong feeling among the middle aged and elderly that the younger generation is marrying younger. The importance of this change is viewed less in terms of an effect on fertility and more a con- concern about the broader social consequences, in particular the relationship between generations. Said one: "The young men want to marry as soon as they can shave. They don't obey their parents anymore." Analysis of the Birao survey data supports this feeling of decreasing age at marriage, with education being a suggestive indicator of acculturation (Table 4.8).

Table 4.8

MEAN AGE AT MARRIAGE FOR BIRAO RESPONDENTS

	Female	Male
All	18.9 (49)	20.5 (31)
No Education	19.1 (22)	22.5 (12)
Some Education	18.6 (27)	19.8 (19)

Relationship Between Nutrition and Family Size

As most of the Weather Coast is isolated from the main urban center of Honiara (Fig. 1.1), the local diet depends almost wholly upon what the people can grow, catch, or gather.

As is elaborated in Chapter 6, the basic food crops are yam, taro, and kumara, while cassava, pana, pineapples, bananas, native cabbages, sugar cane, and coconuts are grown in varying proportions along the coast. Nuts, fish, bush cabbage, and other fruits also are gathered according to availability. Pigs are raised and eaten mainly for feasts and poultry eaten occasionally. Those parts of the Weather Coast in closer proximity to Honiara have felt a greater impact of store-bought goods upon their daily diets (see Chapter 6). There is often also a reduction in the variety of foods eaten as the greater the distance from the coast. The bush people of the Koloula Valley, for instance, must gather their coconuts from the saltwater, nor are nuts and fish as abundant or readily available within the valley as on the coastal strip. Consequently, the amount of protein in the daily diet appears to be less for most bush areas.

In questioning mothers about their feeding practices for children during the first three years of life, considerable variation was revealed between villages that followed customary or more contemporary life styles, as well as between villages dominated by different religious faiths. During the child's first year, all women rely mainly on breast milk supplemented by root crops at varying times during this period. Such foods were normally introduced into the diet by the time the child had reached six months. Traditionally, the root was premasticated before being given to the infant, as is still done in areas where the people are strong believers in the Moro Movement. By contrast certain missions, notably the Seventh Day Adventists, strongly disapprove of premastication on the grounds, reported SDA women, that premasticated food would cause the infant to become ill. As a result these women cook the root thoroughly and mash it with a spoon into a pudding-like consistency.

The infant is almost always weaned when the mother again becomes pregnant, generally when it is between 18 and 24 months old. Weaning is therefore usually done rather abruptly but, if the mother does not conceive again, then the child may be allowed to suckle until three, four, or five years of age. Many women allow the child access to breast milk until it is no longer desired. By the age of one year, even though breast milk may still be available, the child is eating many other soft or non-dry foods:

all roots, cabbage, green coconut, banana and payaya. Some fish and meat may also be given. Nuts, pineapple, mature coconut, and sugar cane are often still being withheld at the end of the first year but during the third there is no discrimination between what the child and other members of the family are eating.

Though this diet can produce sub-deficiencies, malnutrition is rare on the Weather Coast. Women continue to eat a normal diet during pregnancy but attempt to increase the amount of greens consumed daily. In addition, they continue to do heavy garden work until the time the baby is born. It is an accepted fact that the health and nutritional status of the pregnant woman necessarily affects the health of the infant, so that poor health and nutrition consequently lead to higher mortality of both mothers and young children. While nutritional status has remained the same throughout the past generation, improved health care and the eradication of yaws and malaria has helped remove any stress that might be placed upon a woman through a deficient dietary intake. Since the Second World War, in other words, Weather Coast women are generally more healthy, can therefore cope more easily with variations in diet or the effects of poor nutrition, and as a consequence the number of surviving children per family is increasing.

Acculturation and Fertility Behavior

In general, fertility behavior on the Weather Coast has been affected by European contact through modification of, first, traditional reasons for manipulating fertility, such as food shortages; second, traditional methods for manipulating fertility, like abortion and infanticide; third, environmental factors, notably health; and fourth, traditional social patterns which provide the context for the decision to have or not have a child. The fourth modification is the most difficult to define, the most difficult to distinguish between cause and result, and perhaps the most important for the future. Whereas European influences upon the first three aspects are largely history, the ramifying effects of the fourth modification are still evolving and not well understood by either local or outside observers. The likely effect of education upon age at marriage and age at first birth, and its consequences upon fertility, has already been discussed and, although no statistical data exist, it is reasonable to hypothesize that other factors such as non-educationally related absences from the Weather Coast (working in Honiara, for example), and communications (radio) also have left or are leaving their mark on fertility patterns. It also seems reasonable to suppose that as links with the outside world increase, fertility patterns will be even further modified. Thus far, on the Weather Coast, Western contact has not had any great impact upon traditional attitudes and behavior but in the few cases where such changes have occurred, the people themselves have had little to say about their directions.

Because recent changes in population growth rates throughout the Weather Coast have resulted from the creation of functional gaps in the contemporary fertility system, from the creation in other words of felt needs rather than their fulfillment, the prognosis for the success of any widely sponsored family health program is good. Many traditional methods of family limitation are no longer available and the circumstances requiring their use still exist; consequently there is at present an unfulfilled contraceptive need on the Weather Coast. Both the existence of traditional methods of affecting pregnancy and an examination of contemporary attitudes indicate that there would be little, if any, overt resistance to the local use of Western contraceptive methods. The extent to which Western methods are accepted to fill this existing need will, however, be a direct result of how successfully any program meets the local perception of the problem. European administrators are understandably concerned with the implications for government planning and the burdens imposed on government services by rapid increases in demand that result from population growth. The concerns of local residents are predicatably more self-oriented and traditional: child-spacing, and the widening gap between the number of children desired and the number who now survive. In this situation, the means of treatment offered through any program may well be Western but to be successful the method of use must be culture specific.

Appendix: Custom Medicines that Affect Fertility

Medicines are arranged by group--abortifacients, pregnancy preventives, and pregnancy aids--and within these alphabetized according to their Weather Coast dialect name, followed by the botanical name where known.

Abortifacients

1. CHOCHORE--Urticaceae Pipturus argenteus (Balo informant)
   After the pregnant woman takes the PAPACHO root to kill the fetus, she takes approximately one tablespoon of liquid squeezed from the CHOCHORE bark, in combination with liquid from the bark of the HORADE tree and liquid from the crushed stem of the vine MADALI (ALO MADALI). The combination of the three liquids causes the actual abortion of the fetus.
2. HORADE--Apocynaceae Alstonia spectabelis (Balo informant)
   See CHOCHORE for description of use. Approximately one teaspoon of liquid squeezed from the bark is used.
3. KONGA--Tiliaceae Trichosperum psilocladum
   Used only in early pregnancy by a man who does not want the women to be pregnant, and possibly without her knowledge. The bark of the KONGA is put in water, with perhaps the liquid being extracted first, and the woman drinks approximately one teaspoonful. There are words necessary to the process and the woman aborts in three days.

4. ALO MADALI--An unidentified vine (Balo informant)
   See CHOCHORE for description of use. Approximately one teaspoonful of liquid from the crushed vine is used.
5. PAPACHO--<u>Zingerberaceae</u> <u>Curcuma</u> <u>longa</u>, probably tumeric (Balo informant)
   A pregnant woman takes a piece of PAPACHO root about 1/4" to 1/2" in diameter for several days. It is used to kill the fetus, followed by medicine 1 to abort the fetus.
6. RIA--<u>Zingiberaceae</u> (a form of ginger)
   A pregnant woman eats a piece of RIA root, about 1/2" to 1" in diameter once or twice a day for one week. This may by itself cause an abortion, or the RIA may be used in the same manner as PAPACHO and followed by the CHOCHORE procedure.
7. ALO VINAINATO--an unidentified vine (informant unknown)
   A small amount of liquid is drained from the stem of the vine and ingested by the woman shortly after conception to cause abortion.
8. ALVIOTA and MAUMAURI--Listed as pregnancy preventives, but may also be abortifacients.
9. PINEAPPLE and LEMON or LIME (Malagheti informant)
   The pregnant woman eats the unripe fruit of a PINEAPPLE and LEMON or LIME. If she does not abort, she pounds on the abdomen with hot rocks. This is the only method obtained from female informants.

Pregnancy Preventatives

1. MAUMAURI--<u>Urticaceae</u> <u>Elatostema</u> (Bokasughu informant)
   After a woman has missed a menstrual period, she drinks the liquid from one crushed leaf of the MAUMAURI and one leaf each of two types of the ALO VIOTA, mixed with water. This method was described as a pregnancy preventive, but perhaps classifying it as an abortifacient would be more accurate.

2. RIA--Zingiberaceae, a form of ginger (informant unknown) Considered a "poison" rather than as a medicine. Used to cause infertility in a woman without her knowledge. There is a medicine that may be taken later to restore fertility (method number 2, Fertility Aids). The actual amount taken, or the method of use, is unknown.
3. VALA--Berringtoniaceae Barringtonia novae-hyberaiae (Sukiki informant)
   If a parent decides that he does not want his female child to ever bear children, a course of treatment is begun when the child is aged about five or six, and the same medicine given at each "step of growth." A small amount of bark is scraped from the VALA tree that had no branches and put into water which the child drinks. There are charts that accompany the taking of the medicine. There is a medicine that counteracts the effect of the VALA, but it was unknown to all informants.
4. ALVIOTA--Urticaceae Pipturus repandus (Bokasughu informant) Two types are necessary; one type has red on the underside of the leaf, the other has a green underleaf. One leaf of each type is used in combination with the MAUMAURI (see MAUMAURI for description).

No informants knew of any method that would render a man sterile, nor did anyone know if such a method had existed in the past.

Pregnancy Aids

The two categories of medicine that can be considered aids to pregnancy are, first, those used to assist a woman who has been unable to conceive, and second, those that counteract the effects of pregnancy preventives.

1. To assist in pregnancy, the new growth is taken from the PURE tree (Acanthaceae Pseudenanthemum sp.) and placed inside a nest of the CHOLE bird (unidentified), which in turn is wrapped with a vine that was unknown to the informant. The combination

is then placed, without the woman's knowledge, by her husband, in a place where the woman often walks. After she has walked over it, the husband places it in the head of a spring where he chants over it, words unknown. The woman then becomes pregnant (Bokasughu informant).

2. To reverse the effect of the "poison" which causes infertility. On the first day, in order to cleanse the womb, the woman takes a tablespoonful of bark, mixed with water, of the BALE tree (unidentified). On the second day, the woman takes a tablespoonful of bark, mixed with water, of the KONGA tree (<u>Tiliaceae Trichosperum psilocladum</u>). Next, the stem of the LO vine (unidentified) is hammered and the liquid (which is red) extracted. This is done at weekly intervals, then biweekly, then monthly, until the woman is no longer poisoned. The woman does not drink the liquid; it is observed and when it is clear in color, the effect of the poison has been reversed. After it is assured that the woman is no longer poisoned and she has had her first menstrual period, she takes the liquid from the leaves of the BULBULMISO (unidentified) mixed with water. The purpose of this is to stop the menstrual flow. If the menstrual period lasts only three days then the woman will become pregnant. If, however, it lasts longer then no pregnancy will result. If no pregnancy occurs, then the BULBULMISO will be given again during the next menstrual period. The informant, however, had great faith in the method working the first time. This method has to be administered by a specialist, because it takes considerable knowledge to know when the LO turns color.

Chapter 5
NATURAL ENVIRONMENT

As has already been suggested, the physical environment of the Weather Coast imposes greater than normal constraints upon its inhabitants. The rugged terrain, the wet, humid climate, and unpredictable factors such as earthquakes and hurricanes, produce a challenging environment for those who make the Weather Coast their home. In this chapter the elements of this environment will be discussed in detail, both to provide a context for following chapters on agriculture and economic considerations and to show how physical conditions necessitate constant adjustment and readjustment by the people of this isolated and difficult land.

Geology

The Solomon Islands form a link in the chain of islands, from New Guinea to Fiji, which marks the zone of transition between the Australasian continental basement, and the sima-floored Pacific mass. The chain lies on the "continental" side of the "Andesite line" and shares, with other large island groups of Melanesia, such typical characteristics of "continental" islands as andesitic volcanism, and a wide variety of surface rocks (plutonic, metamorphic and sedimentary), some extending in age into pre-Tertiary times. The possibility of commercially useful mineral deposits is present in some areas. As may be expected in a transitional zone of this type, the area is one of intense crustal instability, being a particularly unstable sector of the circum-Pacific active zone. There are many active fault lines and deep-focus earthquakes are frequent, although zones in which earthquakes have never been recorded may occur in close juxtaposition with those of high-seismicity.

* By J.R.D. Wall, assisted by J.R.F. Hansell.

The Solomon Islands are believed to be part of a single, elongated, crustal block extending from Fiji westward to the Bismarck Archipelago (Brookfield with Hart:26). Thompson (1967) maintains that this block is detached from the main continental mass, and is essentially a sialic "island" floating within an "oceanic" sima basement. The detachment of the fragment was probably caused by extremely deep faulting, due to stresses built up by the lateral movement of the Pacific mass in relation to the Australasian continent.

On a smaller scale, the geology of the Solomons exhibits similar features. According to Coleman (1966), the group is divisible into three "provinces" (Fig. 5.1). The Volcanic Province, in terms of the continuing development of the islands, is the youngest and comprises all the western islands in the group with active and recent volcanoes, stretching from Bougainville to Savo and northwest Guadalcanal. The Central Province has a Mesozoic basal complex of primary basic lavas, altered to schists in places, and derived, commonly terrigenous, sediments. Guadalcanal occupies a central position within this province, which extends from Choiseul to San Cristobal. The Pacitic Province occupies the eastern-most flank of the chain from part of Choiseul through Santa Isabel, Malaita and Ulawa to northern San Cristobal and is formed of basic oceanic lavas of Cretaceous age overlain by Tertiary pelagic sediments.

The geology of Guadalcanal is described in both regional and specialist reports in the British Solomon Islands Geological Records, upon which the following generalized account, with particular reference to the Weather Coast, is based (Grover, 1958, 1965, 1968). Forming the basal succession of rocks of Guadalcanal are the Mbirao Group, a complex of basaltic lavas and dolerites of pre-Miocene, probably Mesozoic, age. These rocks were extruded beneath the sea as piles of lavas at least 1,200 meters thick, mainly in the eastern half of the island (Fig. 5.1). Incorporated within the lavas are thin beds of limestone.

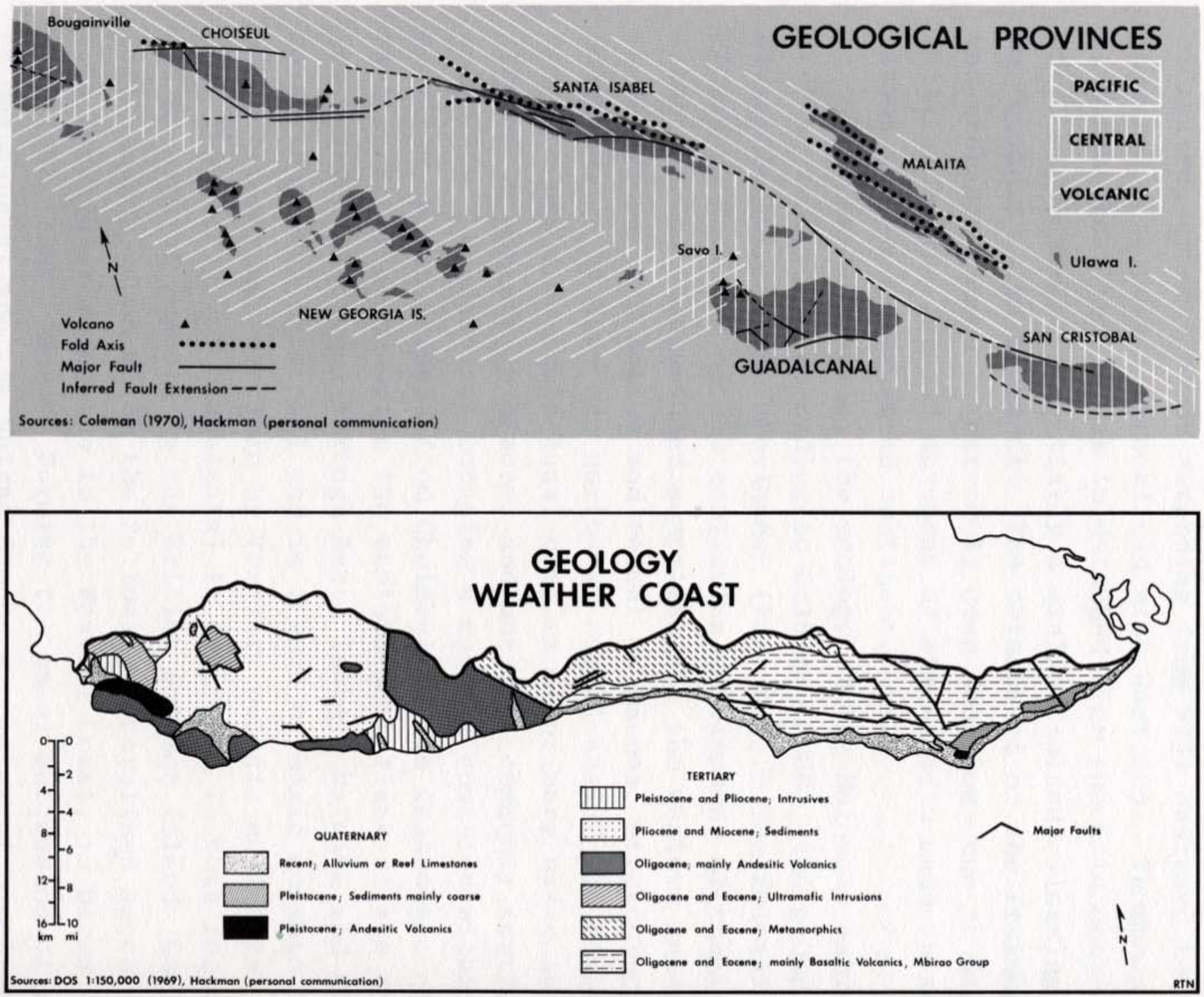
GEOLOGICAL PROVINCES
PACIFIC
CENTRAL
VOLCANIC
Bougainville
CHOISEUL
SANTA ISABEL
MALAITA
Ulawa I.
Savo I.
NEW GEORGIA IS.
GUADALCANAL
SAN CRISTOBAL
N
Volcano
Fold Axis
Major Fault
Inferred Fault Extension
Sources: Coleman (1970), Hackman (personal communication)
GEOLOGY
WEATHER COAST
0 2 4 6 8 10
km mi
0 4 8 12 16
QUATERNARY
Recent; Alluvium or Reef Limestones
Pleistocene; Sediments mainly coarse
Pleistocene; Andesitic Volcanics
TERTIARY
Pleistocene and Pliocene; Intrusives
Pliocene and Miocene; Sediments
Oligocene; mainly Andesitic Volcanics
Oligocene and Eocene; Ultramafic Intrusions
Oligocene and Eocene; Metamorphics
Oligocene and Eocene; mainly Basaltic Volcanics, Mbirao Group
Major Faults
N
Sources: DOS 1:150,000 (1969), Hackman (personal communication)
RTN

Figure 5.1

The early Tertiary period was marked by a phase of crustal instability. Regional metamorphism resulted from large-scale, deep-seated faulting and folding such that the basement lavas were altered to dark greenish chlorite-actinolite schist in a wide belt between Marau and Talise (Fig. 2.1). This phase of instability was accompanied or followed by the localized intrusion of ultramafic material, which probably derives from a shallow, discontinuous source body, now exposed in three well-defined areas on Guadalcanal. The western outcrop at Beaufort Bay (Fig. 2.1) lies on the border of the project area and consists chiefly of an upthrust concentric body of peridotites centred around a microgabbro intrustion.

Mid-Tertiary sediments occur on some of the highest peaks of central Guadalcanal (Grover, 1958) and it has been suggested that at this time there was considerably higher land to the south of the island where now there is only deep sea (Coleman, 1970). Subsequent massive block-faulting and possibly crustal separation along the present southern coast are presumed to have caused the foundering of offshore blocks. Probably associated with such block-faulting was renewed volcanic activity in the Oligocene to Pliocene periods, around the Koloula valley to the west of the Mbirao basement lavas. Within this fault-bounded, triangular area, basaltic and andesitic lavas and agglomerates were extruded and further intruded by chiefly basaltic material; localised mineralization also occurred during this time, which resulted in sulphidic enrichment within quartz veins.

Continuing accumulations of pyroclastic debris gradually extended the island northwestwards as andesitic cones and derived sediments coalesced. At the same time sedimentary deposits, initially of submarine calcareous material and later, in the Tertiary period, of terrigenous material derived from the volcanic basement, were laid down on the northern flank. Spasmodic but unequal uplift has accompanied this process, with the greatest amount occurring along the souther coast axis and the least along the northern. The late Pleistocene and Recent periods have seen continued uplift of the land, but irregularly in time and area and complicated by eustatic changes of sea level. The physical effects on the Weather Coast have been slight but in human terms the construction of coastal benches, terraces and fans during this time is much greater.

Three significant aspects emerge from this brief account of Guadalcanal's geological history that affect the physical nature and human occupation of the Weather Coast. First, the entire area is underlain predominantly by volcanic rocks, low in silica and exploitable minerals,[1] and with a chemical composition that has important effects upon soil genesis and fertility. Secondly, the whole region is fundamentally unstable and subject to continuing tectonic stress. This is manifest in short-term events like earthquakes and longer-term stress relief through faulting or vertical and lateral displacement of blocks. The effect on present-day topography is of overriding importance, since the presence of high mountains with long, steep slopes has produced a combination of climatic and erosional processes which tend to maintain a difficult and hostile environment. At the coast, in complete contrast, the processes have fashioned a narrow, discontinuous, habitable strip which, although a temporary phenomenon on the geological time scale, is of increasing importance for today's human settlement of the area. And thirdly, the foundering of the off-shore blocks and the consequent steep drop-off into deep water has deprived the south coast of coral reef development over most of its length. Most coastal forms are therefore of cliffs, open gravel or boulder beaches of inhospitable kind.

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[1] The possible exception to exploitable mineral-deposits is copper ores in altered granodiorite that occur in the Upper Koloula Valley (Winkler, 1968) and the Talise area (Maranzana, 1968). However, extensive prospecting between 1969 and 1973 in the Upper Koloula suggest the likelihood to be less than was once thought.

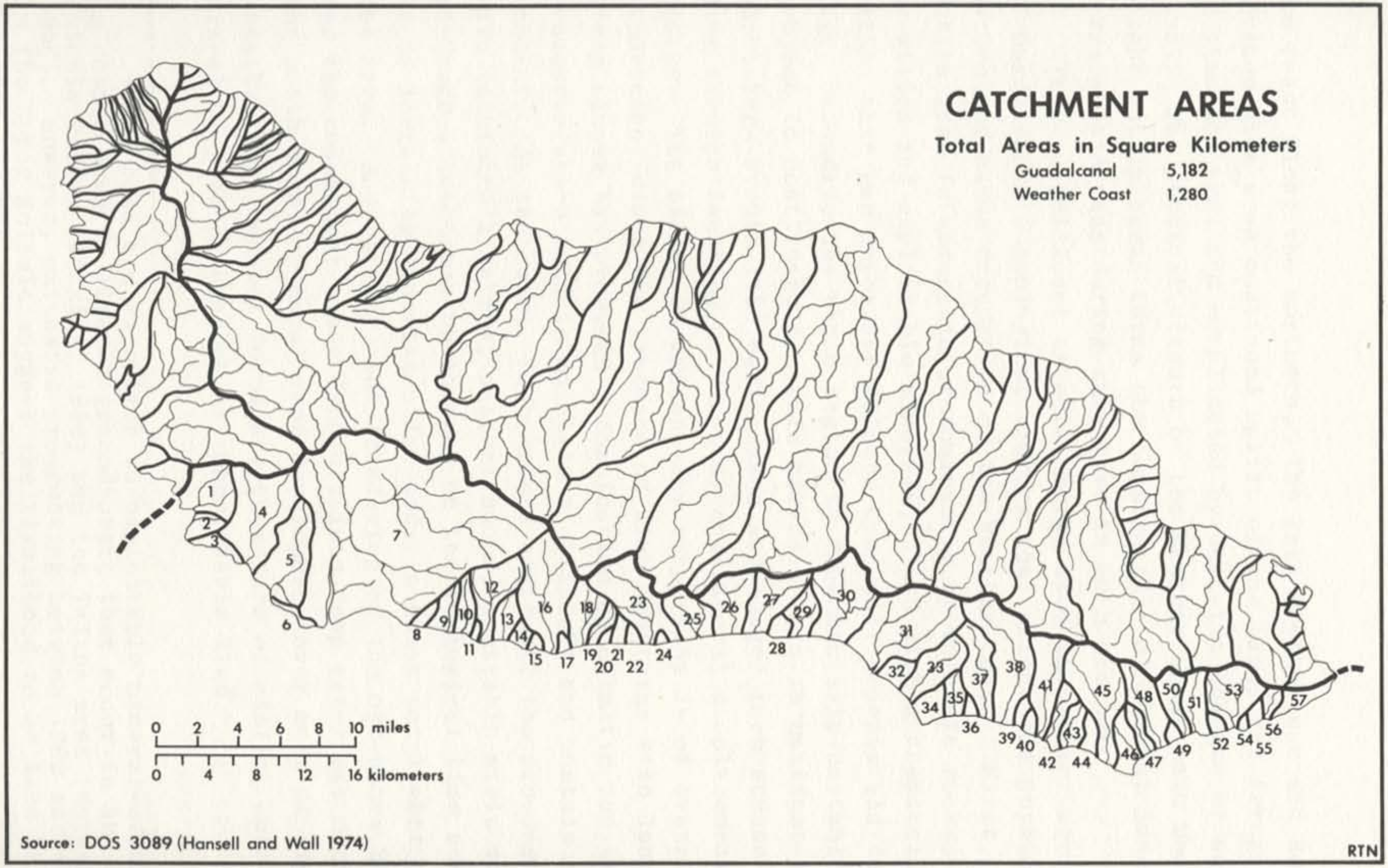
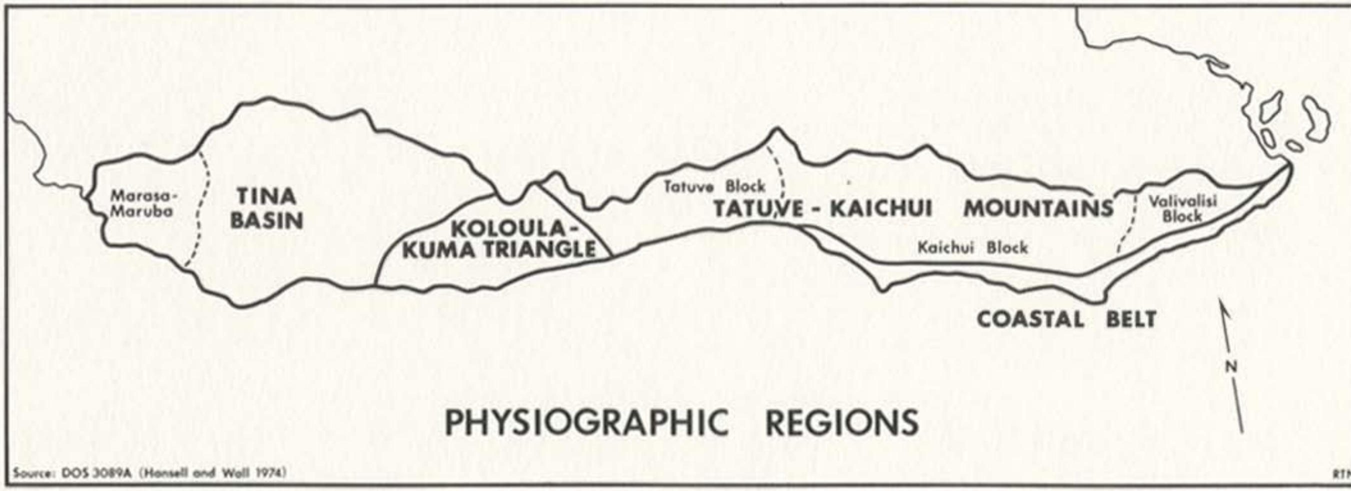

CATCHMENT AREAS
Total Areas in Square Kilometers
Guadalcanal 5,182
Weather Coast 1,280
0 2 4 6 8 10 miles
0 4 8 12 16 kilometers
Source: DOS 3089 (Hansell and Wall 1974)
RTN

Figure 5.2

Weather Coast Catchment Areas

		Km^2			Km^2
1	Bilikovu	29	30	Alivaghato	49
2	Kosughu	8	31	Bolavu	66
3	Avisi	7	32	Haimatua	11
4	Gholi	56	33	Tanggiata	23
5	Lamuloghi	42	34	Lualua, Havora	10
6		4	35	Charibe, Hairuhu	9
7	Tina	341	36	Noto	2
8	Noro, Kolokamachiri	2	37	Sabaharihi	25
9	Ghalighecha, Kaimboghasu	8	38	Sabahalava	53
			39	Kolohaubi	4
10	Kologhailava	11	40	Ndore	3
11	Chochoande	2	41	Alualu	32
12	Viso	29	42	Kolaninggeu	10
13	Tanavuvu	12	43	Toghonivata	10
14	Toghonani	5	44	Chohana, Masi	7
15	Kavio, Haitambu	2	45	Hanagga	45
16	Koloula	51	46	Kolilua	13
17	Ina, Sita, Papala	3	47	Kolovaolù	9
18	Ghoivara	19	48	Tanachecha	23
19	Kolomoli	6	49	Kolopura	4
20	Sivilalu	2	50	Kandaho	13
21	Kolonaniu	4	51	Manauvo	16
22	Alualubo	2	52	Vatulava, Tavala	3
23	Kuma	48	53	Oa	29
24	Choghiri	2	54	Sava	2
25	Riva, Tetebi	21	55	Olovugho, Sohatali	4
26	Alitauva	28			
27	Talise	28	56		6
28	Vurar	5	57	Waimea	11
29	Tiro	11			


Marasa-
Maruba
TINA
BASIN
KOLOULA-
KUMA TRIANGLE
Tatuve Block
TATUVE - KAICHUI MOUNTAINS
Valivalisi
Block
Kaichui Block
COASTAL BELT
N
PHYSIOGRAPHIC REGIONS
Source: DOS 3089A (Hansell and Wall 1974)
RTN

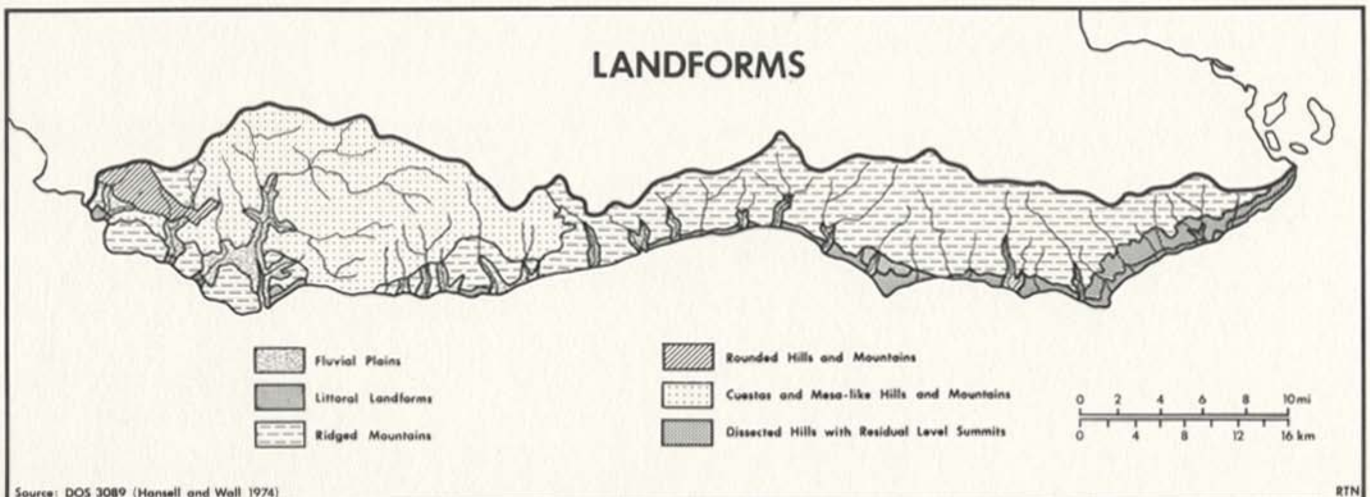

LANDFORMS
Fluvial Plains
Littoral Landforms
Ridged Mountains
Rounded Hills and Mountains
Cuestas and Mesa-like Hills and Mountains
Dissected Hills with Residual Level Summits
0 2 4 6 8 10mi
0 4 8 12 16 km
Source: DOS 3089 (Hansell and Wall 1974)
RTN

Figure 5.3

Physiography

In broad terms, Guadalcanal physiographically resembles the other major islands in the Solomons, for it consists of an elongate mountainous spine fringed in places by foothills and discontinuous fluvial plains. It is however distinct in several important respects: notably, in context of this survey that the central spine rises higher than on other islands and, because of the proximity of the crest-line to the Southern shoreline, produces steeper gradients on the Weather Coast than are found elsewhere. This has important consequences for landforms and hydrology (Figs. 5.2 and 5.3).

The Weather Coast has been considered as one broad physiographic unit, the Southern Mountains (Hansell and Wall, 1974), but at the larger scale utilized for this survey a number of subunits can usefully be distinguished (Fig. 5.3). The basis for such subdivision is internal similarity of topographic features, ideally unified by the presence of a major river system or watershed.

Tina Basin

With a catchment area totalling 341 km^2, the Tina Valley system (Fig. 5.3) is among the largest of Guadalcanal, and by far the largest on the Weather Coast. It causes a distinct northwards embayment in the main watershed of the island (Fig. 5.2). Its maximum height is 2,450 meters at Mt. Makarakomburu in the east (the highest mountain in the British Solomon Islands), and in general the watershed is well above 1,000 meters (Fig. 5.4). Forming the eastern, highest part are deeply dissected ridge systems, with rather uneven profiles and asymmetrical cross sections that reflect the presence of dipping volcanic and sedimentary rocks. This characteristic also results in somewhat irregular slopes varying between 15 and 45 degrees (Fig. 5.4) and the patchy presence of broad, lightly dissected crestal areas.

Nearer the coast, and in the western parts drained by the Lamulоghi (Marasa) and Maruba Rivers (Fig. 2.1), the general height decreases to less than 600 meters and the ridges become narrower and more regular in both slope steepness and form. At the coast, ridges drop steeply into the sea. The only all-weather harbour is Wanderer Bay, and elsewhere landings have to be made on steeply shelving, narrow boulder beaches.

The Tina River is in its middle and upper reaches, deeply incised in narrow, boulder-choked valleys and the many angular segments in the drainage pattern are a reflection of the high degree of structural control over river alignment. The lower course is unique on the Weather Coast in that there has developed an extensive fluvial plain which is not subject to periodic catastrophic destruction. To a lesser degree the Lamulоghi (Marasa) and Marumba Rivers have rather similar proto flood-plain development in their lower 3-5 kilometers.

Koloula-Kuma Triangle

The inland limits of this region are marked by fault-line scarps in the upper reaches of the seven or eight small rivers draining it. The scarps are clearly defined to the east of the Kuma River and in the west but are obscure in the north where the Weather Coast boundary is somewhat arbitrary. They separate the higher, massive mountainous blocks on either side from the lower, yet still rugged terrain within the triangle. At the northerly apex of the region is a col in the main island watershed, the Choruchoru gap which, at 900 meters, is 500-900 meters lower than adjacent peaks (Fig. 5.4). This forms an important pass through the mountain chain and leads north into the Suta, Matepono and Mbalisuna valleys (Fig. 2.1). Throughout the Koloula-Kuma region, there is a distinct system of major, generally broad ridges of even profiles that are up to six kilometers long and rise by up to 800 meters above adjacent main valleys. Dissection of the main ridge flanks has added

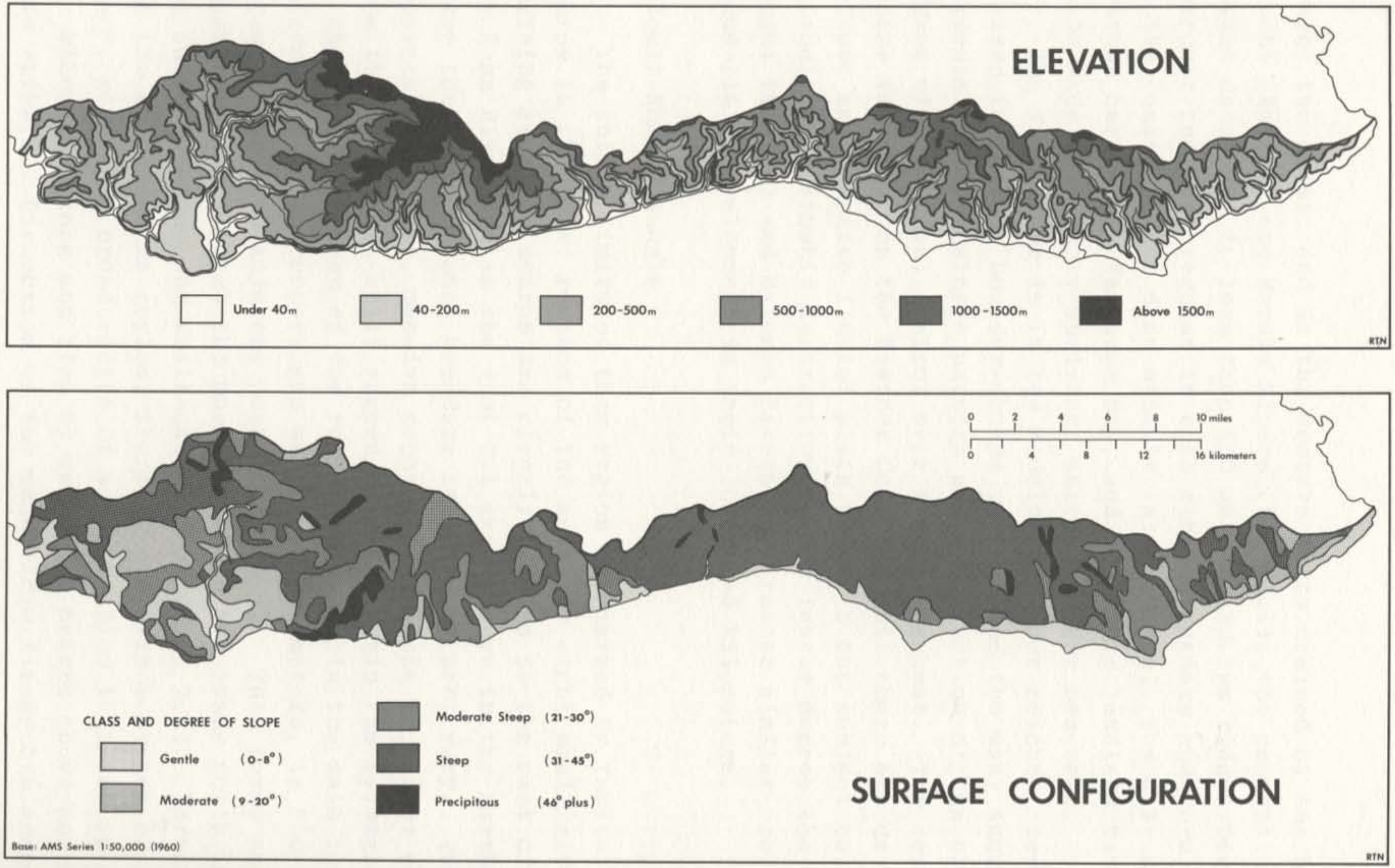

ELEVATION
Under 40m
40-200m
200-500m
500-1000m
1000-1500m
Above 1500m
RTN
0 2 4 6 8 10 miles
0 4 8 12 16 kilometers
CLASS AND DEGREE OF SLOPE
Gentle (0-8°)
Moderate (9-20°)
Moderate Steep (21-30°)
Steep (31-45°)
Precipitous (46° plus)
SURFACE CONFIGURATION
Base: AMS Series 1:50,000 (1960)
RTN

Figure 5.4

a supplementary ridge and spur pattern, in which small valleys and gullies are incised by up to 100 meters and where slopes generally range from 30 to 45 degrees.

The main valleys follow roughly parallel courses southwards but the minor valleys produce a fine, angular subsidiary network. The latter are very narrow, choked with boulders and include many waterfalls; the former are less than one kilometer wide, short and steep, and similarly covered with coarse, unsorted river detritus. The actual river beds are predominantly less than 25 meters wide and normally shallow, but periodically and with little warning they fill rapidly with floodwater to cover the entire valley floor to a depth of several meters. Unpaired terraces, 2-6 meters high and less than 200 meters wide, occur at intervals along the sides of larger valleys.

The presence of high, steep-sided ridges at the coast has limited beach development severely, yet there is an almost continuous boulder beach, some 5-20 meters wide, connecting the narrow valley mouths along this harbourless coast.

Tatuve-Kaichui Mountains

This region is unified by the central chain of mountains traversing it from west to east but may be subdivided into the western Tatuve block, the central Kaichui block and the lower, eastern Valivalisi block.

Throughout, the mountains are very deeply incised and consist mostly of narrow, uneven ridge crests up to eight kilometers long and broadening into flattish residual summits in places, particularly in the west. Ridge flanks are long, mostly straight and predominantly steeper than 25 degrees. The ridges rise to crestlines of 2,000 meters in places (Fig. 5.4). Valley floors are invariably narrow, short, steep and bouldery, and only within one or two kilometers of the coast do they develop narrow floodplains and terraces. They are influenced strongly by structural features and most small-valley segments are linear with angular breaks in direction. Flash flooding is common.

Between the Tatuve and Kaichui blocks are some important passes in the watershed, the lowest being at 700 meters at the head of the Alivaghato Valley (Fig. 2.1). In the east, the mountains gradually decrease in height to 300-500 meters and the crests of many ridges are rounded.

Coastal Belt

This elongated region extends from Marau to Avuavu and is 1 to 4 kilometers wide. The two capes at Lauvi Point and Cape Henslow (Fig. 2.1) separate the region into three quite distinct units. The western sector centers around the Bolavu River which, like those already described to the west, is susceptible to rapid, severe floods that occupy the full valley floor. At the coast is a narrow sand beach backed successively by shallow swamps and foothill alluvial fans. The swamps become extensive and more poorly drained towards Lauvi Lagoon, and in this area the foothills to the north are rounded to flat-topped, terrace remnants that are lightly dissected.

Between Lauvi Point and Cape Henslow, the coastal belt comprises extensive alluvial fans that have coalesced and are derived principally from small gullies and debris slides in the adjacent foothills. These are as much as two kilometers wide and, with gentle seaward slopes of 3 to 13 degrees, are broken at intervals by major streams, with sources in the mountains to the north, which have incised their courses by 2 to 45 meters (Fig. 5.4). In places there are coral outcrops on the coastal fringe.

Eastwards from Cape Henslow are similar but narrower, coalesced fans. Rivers traversing these are shorter and smaller than those further west and have caused less dissection. Inland, the foothills again consist of flat-topped residual terraces which merge gradually to steep-sided, rounded ridges inland before giving way to the higher volcanic hinterland. Towards Marau, narrow swamps recur between the foothills and coastal beaches to become extensive coastal swamps in the extreme east.

Physiographic characteristics significantly affect the human occupation of the Weather Coast in three ways. First, almost the entire area is mountainous, not only in the sense of absolute altitude but also in terms of massive dissection in which extremely active, short, powerful rivers have carved deep, slot-like valleys. The extreme dissection is a severe impediment to free movement and channels virtually all tracks to either ridge crests or the wider valley floors. Even the latter are frequently dangerous and impassable during floods. In this context the presence of a few, relatively low passes in the main watershed is significant for inter-regional movement.

The coastline is almost unique in the Solomons in providing no natural harbour for a distance of 150 kilometers between the extremes of Wanderer Bay and Marau (Fig. 2.1). Fair-weather anchorages occur, and in places it is possible to beach small boats for unloading cargo but this depends on calm weather conditions, infrequent at best, and particularly rare during the southeast trade wind season. The virtual absence of coral reef, either fringing or barrier, is unusual in tropical seas, and deprives the Weather Coast population of the protected waterways, shelter and food resources normally associated with coral lagoons.

Third, the roughness of the terrain has had a considerable effect on the utilization of land. Many of the mountain slopes are so steep that they are highly unstable and debris slides, particularly after heavy rain, are very common while many lower slopes are prone to undercutting by rivers.

Landforms

In this section the specific landforms that comprise the various physiographic regions are described more fully (Fig. 5.3), using the detailed descriptions of Hansell and Wall (1974) as the basis for this somewhat simplified version.

Fluvial Plains

With the exception of the Tina, Lamuloghi (Marasa) and Maruba rivers (Fig. 5.2) in the west, there has been little lateral movement of river courses to carve out extensive floodplains. The Tina-Lamuloghi floodplain and terrace complex is by far the largest, occupying about 20 km^2. It is not clear how or when the floodplains of the two rivers joined, but eustatic movements in the Pleistocene era probably had some effect, coupled with a marked tendency for headwater streams in the area from Biti northwestwards to cut to the southwest, possibly assisted by block warping to the west.

The river terraces in these western valleys are less than six meters high and are crossed by networks of partly obscured, abandoned river channels, some of which fill with water from the terrace surfaces during heavy rain. These old channels tend to be stony, even bouldery, but elsewhere the terraces have a smooth, gentle seawards gradient; they may be flooded infrequently to shallow depths near main rivers. Backswamps, caused by the blockage of minor streams, occur in one or two places but they are small and shallow. To the east of Biti (Catchment 9, Fig. 5.2), river terraces increase in height but occupy only narrow strips at irregular intervals up the valleys. Many of these merge with footslope colluvial fans and screes.

The present-day floodplains, (low lying land subject to frequent flooding and to be distinguished from the lower terraces) occupy almost straight belts, up to one kilometer wide in the case of the Tina. Within this belt the river course meanders, splits and rejoins, leaving many small, low islands which may be swept away entirely during floods. In severe flooding the low terraces also may in places be covered briefly by water.

Littoral Landforms

Along almost the entire length of the Weather Coast there is a narrow beach. It has not formed, however, at headlands such as

Cape Hunter and Cape Henslow (Fig. 2.1), nor at the foot of the high rocky slopes between Duidui and Biti (Catchments 8-12; Fig. 5.2).

From Marau to approximately Vatulava, (Fig 2.1) the beach material consists essentially of fine coral debris with minor volcanic constituents. It forms a low, one to two meter-high, gentle rise at the shore and does not extend inland for more than 5-20 meters except near Marau. In many places there is exposed coral reef seawards of the beach. To the west, however, with the exception of reef-bound headlands such as Cape Henslow, the beaches are entirely different, being formed predominantly of volcanic sand and boulders which become progressively larger westwards, until near Duidui the 'beaches' are formed entirely of large blocks and boulders. Their width is narrow and, beyond 5-20 meters inland, rounded beach sand and stones are rare. At the mouths of almost all rivers longshore drift has created pervious barriers, usually less than three meters wide at high tide. The foreslope of the volcanic beaches is steeper than those formed of coral and they tend also to be slightly higher.

Inland, particularly east of Avuavu, are broad, gently sloping areas that are formed of colluvial/fluvial debris. During storms, the gullies and small streams bring down vast amounts of slurry and debris from landslides, and on reaching sea level are unable to carry the load further. Repeated depositions of this kind have gradually extended the land seawards as triangular-shaped fans at the mouths of the streams. In time, the sea has planed off some areas and filled in gaps to leave an almost straight coastline and the area has become one of coalescing fans. Slopes on the fan surfaces are gentle, reaching as much as 12 degrees near the hills but decreasing to two to three degrees near the sea. Large rivers from the inland mountains have cut through the fans in several places to give steep marginal slopes up to 45 meters high. Near Avuavu, Lauvi Point and Marau, topogenic swamps have developed behind the coastal beaches, but they are not large and predominantly shallow.

Ridged Mountains

This landform occurs mainly in the high, eastern part of the Weather Coast, over the strongly faulted, old volcanic basement. The prevalent features throughout this area are long, narrow, straight ridges with long, steep and mostly straight slopes cut in many places by gullies and debris slides. The ridges characteristically have crestlines that, although rather uneven in height, can be traced easily for many kilometers. They are predominantly less than 5 to 15 meters wide but broaden locally to undulating areas as much as 150 meters wide. Ridge alignment is straight rather than curved, and this is emphasized by the angular spur pattern.

Because of the intense dissection by rivers these mountains, which rise in places to 2,000 meters, have slope lengths from crest to major valley bottom of generally more than 300 meters and locally as much as 600 meters. Where gullying is particularly active, local slope lengths may be considerably shorter between spur crest and gully foot. Overall the slopes are straight but in detail there are irregularities, caused by rock outcrops, gullying, landslips, debris slides, tree-fall scars and terracetting (a micro feature produced by tree roots and trunks checking surface downwash of soil, stones and organic debris). In addition there is usually a sharp convex break in slope near the crest line and an even more abrupt convex break near the valley bottoms where stream incision and undercutting have produced cliffed segments. Such cliffed foothills are from 3-30 m-ters high and consist almost entirely of rock outcrop. Slopes are predominantly moderately steep or steep (25-40 degrees; Fig. 5.4) with some gentler segments occurring on upper slopes, while steeper areas are characteristic of footslopes.

Erosion on the main, long, midslope segments is by a combination of surface rainwater wash and gullying. It is not easy to find slopes broader (in approximately the horizontal dimension) than 200 meters, which are unaffected by some form of gullying. Towards the top of a major slope, these gullies may be no more than 10 meters (perpendicular to the gully floor) but nearer the foot of the mountainside their depth may have increased to 100 meters. The floors of the gullies are invariably rocky with both solid outcrops and large and small rock debris. The gradient is irregular from waterfalls and rapids and ranges from approximately 10 degrees near the main valleys to about 35 degrees at higher levels (Fig. 5.4) These gullies generally contain a little running water which swells rapidly to a torrent after the frequent heavy showers of rain. Gully footslopes are also steep to cliffed, which helps to give an overall convexity to the shorter spur-to-gully slopes.

At or near the heads of gullies there is commonly a broad, cup-shaped concavity caused by headwater sapping and localized slope failure in the form of small land slips. In many places these are sufficiently large to feed rock and earth slurry in the form of debris slides intermittently into the gully system downslope. The high number of debris slides and earth slips in these mountains is probably directly related to the high rainfall and susceptibility of the region to seismic events. When the shallow soils are saturated, their resistance to movement on steep slopes is reduced considerably and contemporaneous earthquakes or widespread tree fall resulting from cyclones are likely to initiate movement.

The upper valleys separating the main ridges have notably narrow floors, less than 20 meters wide in the upper reaches and little more than 100 meters elsewhere. The gradients range from about 2 degrees to 5-10 degrees in the interior. Narrow, bouldery terraces mostly from 2-6 meters above the stream beds occur in short strips where the valley is slightly wider, and at the mouth of large gullies there is commonly a triangular fan of coarse debris with slopes in the order of 2-8 degrees. Such fans are particularly common along the coastline west of Talise (see Littoral Landforms). Flooding in the valleys is irregular and severe, but of short duration: rarely more than three days. At such times the usually small, shallow stream of clear water changes to a turgid, brown, rumbling torrent in which boulders of several cubic meters are readily moved.

Rounded Hills

This is not altogether a satisfactory term to describe areas which, in morphological terms, are difficult to distinguish from those of cuesta and mesa-like hills (see following section). The rounded hills are formed of ultramafic rocks, faulted and locally intruded by augite- and hornblende gabbro. Their most distinctive morphological feature is that summits are broad and gently rounded; in other repsects they differ little from the rest of the Weather Coast hills and mountains.

Within the project region these landforms are less than 700 meters high. (Compare Figs. 5.3 and 5.4). They form separated ridge systems, individually less than two kilometers long and with predominantly even, moderately sloping and straight crestal profiles (Fig. 5.5c). Crest widths range from 5-50 meters merging with gently convex upper slopes. Middle slopes are straight, less than 500 meters long and from 25-35 degrees (Fig. 5.4) except where gullies have produced steeper, shorter segments. Lower slopes tend to be short and steep due to stream incision. Summit areas are stable and the broader areas are ungullied. On the steeper midslopes, however, there are many signs of slope failure particularly at gully heads. No large rivers drain these landforms.

Cuesta- And Mesa-like Hills and Mountains

An irregularity of slope forms and the presence of lightly dissected, undulating or tabular summit areas are the particular characteristics of this group of land forms. Because of the varied lithology, ranging from pyroclastics and lavas to a variety of sedimentary rocks, there is an equally varied array of profiles. Ridge systems occur with narrow uneven summits, but in manyareas these broaden to irregularly shaped areas with gentle to moderate, convex slopes. In some places these are more or less tabular, in the form of mesas; in others they extend to much lower levels producing cuesta-like profiles. In several cases these areas of less steep slopes are underlain by gently dipping sedimentary rocks (Sura and Namolava Land Systems; Hansell and Wall, 1974), and in this respect resemble the scattered, smaller, broad-summit areas

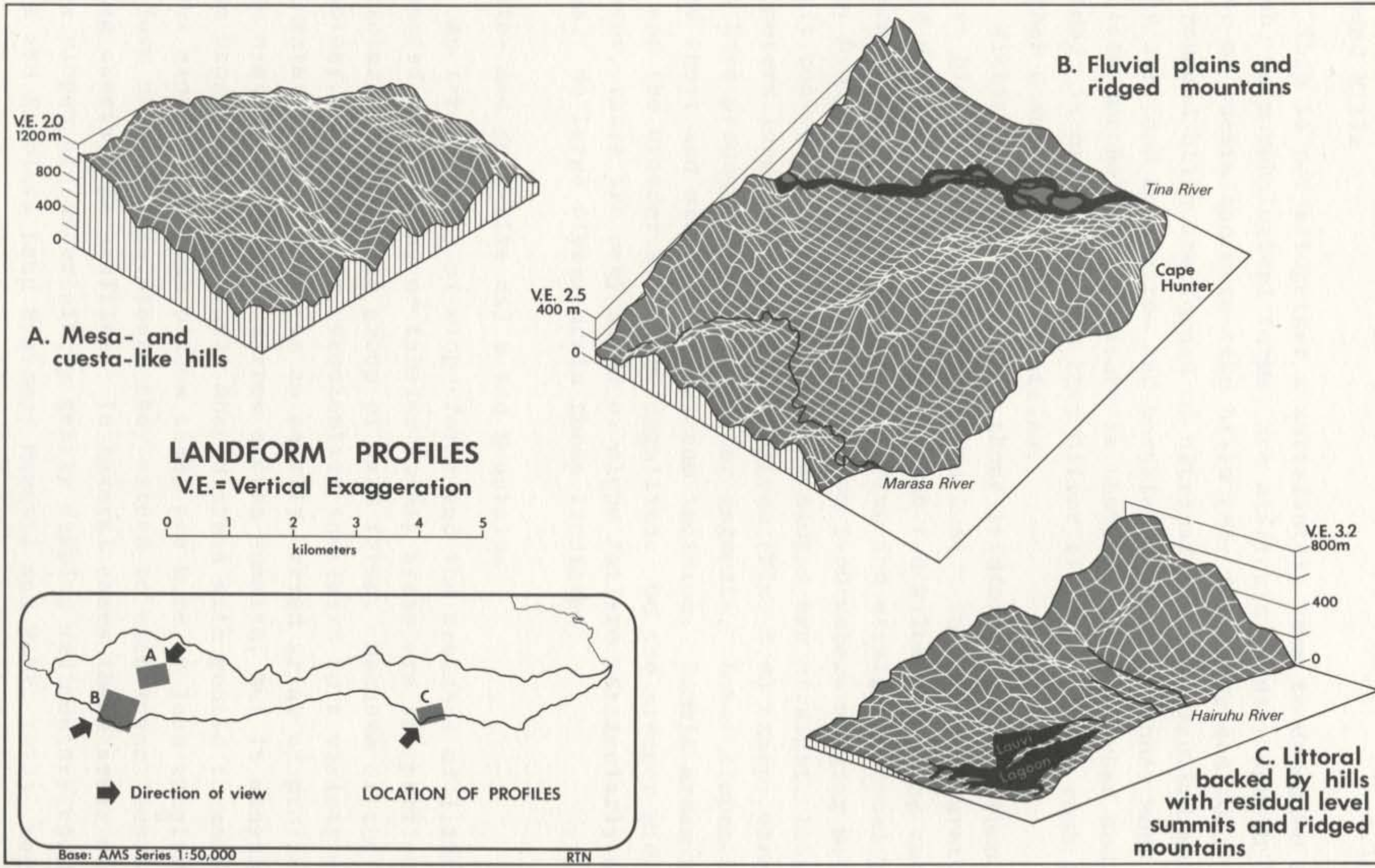

LANDFORM PROFILES
V.E.= Vertical Exaggeration
0 1 2 3 4 5
kilometers
A. Mesa- and cuesta-like hills
V.E. 2.0
1200 m
800
400
0
B. Fluvial plains and ridged mountains
V.E. 2.5
400 m
0
Tina River
Cape Hunter
Marasa River
C. Littoral backed by hills with residual level summits and ridged mountains
V.E. 3.2
800m
400
0
Hairuhu River
Lauvi Lagoon
A
B
C
Direction of view
LOCATION OF PROFILES
Base: AMS Series 1:50,000
RTN

Figure 5.5

of the Ridged Mountains.

The altitudes attained by these landforms are 2,000-2,450 meters (Fig. 5.4). As the Tina River has incised its course deeply into the area, main slopes are long, ranging from 300-800 meters, although in detail many of these are broken by gullies and intervening spurs with steep slopes. There is little regularity in slope shape, with convex and concave segments occurring unsystematically: lower slopes, however, are straight to slightly convex and cliffed where undercut by streams or gullies (Fig. 5.5A). There are also very steep, slope segments beneath some ridge lines, forming escarpments to the cuestas: on these there are usually rock outcrops and at their base are rock screes.

Valleys are deep and narrow with very little floodplain development. Strips of terraces occur in places up to 10 meters above riverbed level, and colluvial/fluvial fans have been noted at the mouths of gullies. In the upper reaches of the streams the bed is composed of huge boulders. Flashflooding is a feature of these areas.

Dissected Hills With Residual Level Summits

This landform is entirely coastal and evolved as marine platforms or terraces comprised of reef limestones intermixed with weakly consolidated fanglomerate. The hills are in general lower than 100 meters but rise in places to 270 meters. Level to gently sloping terrace remnants occur near the sea, two to three kilometers wide in places and only lightly incised by small streams. Inland, however, the terraces become narrower and grade to gently rounded ridges. The slopes down to the valleys are generally steeper than 30 degrees (Fig. 5.4) and particularly at the coastal margin are cliffed with limestone outcrops. Footslopes also have many cliffed or precipitous sections from stream undercutting but elsewhere may consist of moderately sloping but stony screes. Where volcanic basement rocks are exposed further inland, the hillsides have a more regular form with fewer, very steep facets caused by slope failure.

Streams in these areas have sources in the mountains to the north. On reaching the lower altitudes they have become powerful erosive agents and so have successfully dissected what was once a more or less continuous and level surface. As elsewhere , their efficacy in down-cutting is restricted to short intervals in the year, during floods. Because of the generally steep, streamed gradients there is little meandering and flood plain development.

The landform features of most significance to human occupation are those emphasized in the section on physiographic regions: the general height of the mountains, their ruggedness and instability of slope, ameliorated to a small degree by the presence of gentle ridge summit areas in the west and the flat but narrow lowlands alongside rivers and parts of the coast, although flooding seriously affects most valleys.

The steepness of slopes throughout the Weather Coast is of overriding importanje to land occupation and usage. There are numerous cliffed and unstable slopes throughout the mountains, and it is apparent that the total extent of land utilizable for crops or settlements is limited, particularly if non-subsistence used are contemplated. The fact that earth tremors can initiate earth movements on steep slopes is potentially dangerous, for gardens and even settlements may be swept away or buried. Steep slopes also affect soil formation adversely, causing most to be thin and immature. Considering these factors alone, it is clear that laudform characteristics are only fully favorably to settlement on the low terraces of the valleys from the Tina River westwards, and on the narrow coastal strip particularly east of Avuavu.

Climate

As a general statement the Solomon Islands may be said to be squarely in the humid tropics with a climate that is hot and rainy. This is largely due to the islands' location, from 5-13 degrees south of the equator, and their exposure to the alternating effects of the warm, humid, low-level equatorial air-masses moving westward; the cooler, drier, sub-tropical trade winds from the southeast; and

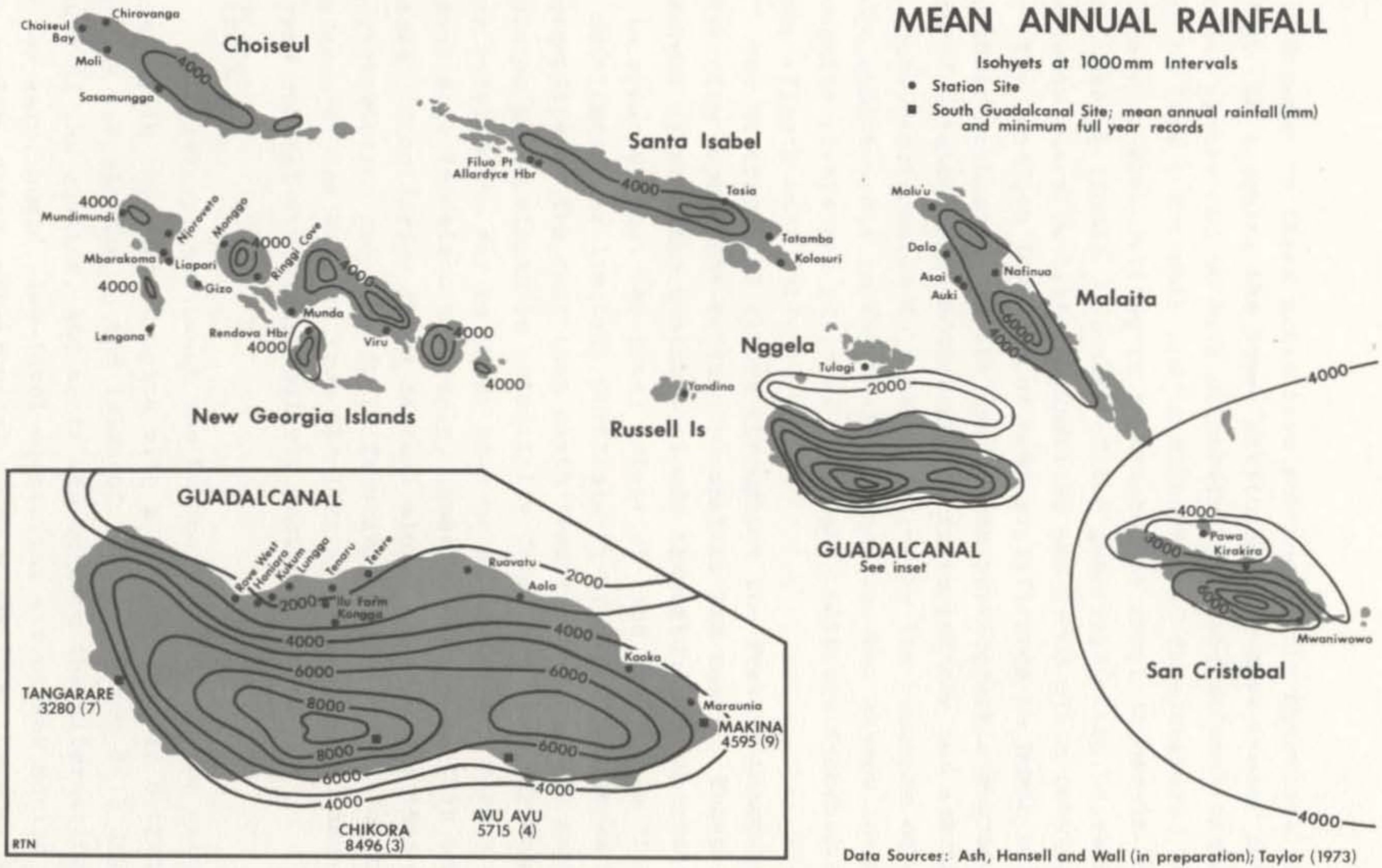

MEAN ANNUAL RAINFALL
Isohyets at 1000 mm Intervals
Station Site
South Guadalcanal Site; mean annual rainfall (mm) and minimum full year records
Choiseul
Chirovanga
Choiseul Bay
Moli
Sasamungga
4000
Santa Isabel
Filuo Pt
Allardyce Hbr
Tasia
Tatamba
Kolosuri
Mundimundi
Njoroveto
Mongga
Mbarakoma
Liapari
Gizo
Ringgi Cove
Munda
Rendova Hbr
Viru
Lengana
New Georgia Islands
Malu'u
Dala
Asai
Auki
Nafinua
Malaita
6000
Nggela
Tulagi
Yandina
Russell Is
2000
GUADALCANAL
See inset
Pawa
Kirakira
Mwaniwowo
San Cristobal
3000
Rove West
Honiara
Kukum
Lungga
Tenaru
Tetere
Ruavatu
Aola
Ilu Farm
Kongga
Kaoka
Maraunia
8000
TANGARARE
3280 (7)
MAKINA
4595 (9)
CHIKORA
8496 (3)
AVU AVU
5715 (4)
RTN
Data Sources: Ash, Hansell and Wall (in preparation); Taylor (1973)

Figure 5.6

the mobile, discontinuous, transient front between these two, commonly termed the Inter-tropical Convergence Zone (I.T.C.Z.)

The proximity of Australia 1,500 - 2,500 kilometers to the southwest, where large, dry, anticyclonic air-masses are a more or less permanent feature, affects the climate indirectly, while the influence of the Asian continent must also be taken into account, although its effect becomes progressively attenuated west to east. Understandably, the oceanic influence on these island climates is also very pronounced.

From about March to November, these islands experience steady southeasterly air-flows, the southeast trade winds. This surface stream originates well to the south and moves toward the thermal equator, well north of the true equator, to fill low pressure systems created there by the high insolation received in these latitudes during the northern summer. In its passage north over the wide expanse of warm ocean, the air progressively absorbs moisture, which is a source of considerable rainfall, particularly in the southern windward slopes in the Solomon Islands.

The apparent move southward of the sun's daily path draws with it the low pressure areas, so that during November there is likely to be unsettled weather as the inter-tropical convergence zone moves oner the Solomon chain. After it has passed on to the south, the weather becomes more stable as northwesterly surface air flows are drawn in. March and April are likely to have unsettled weather as the ITCZ passes over the chain on its return northwards. The southeasterly trade winds are then re-established.

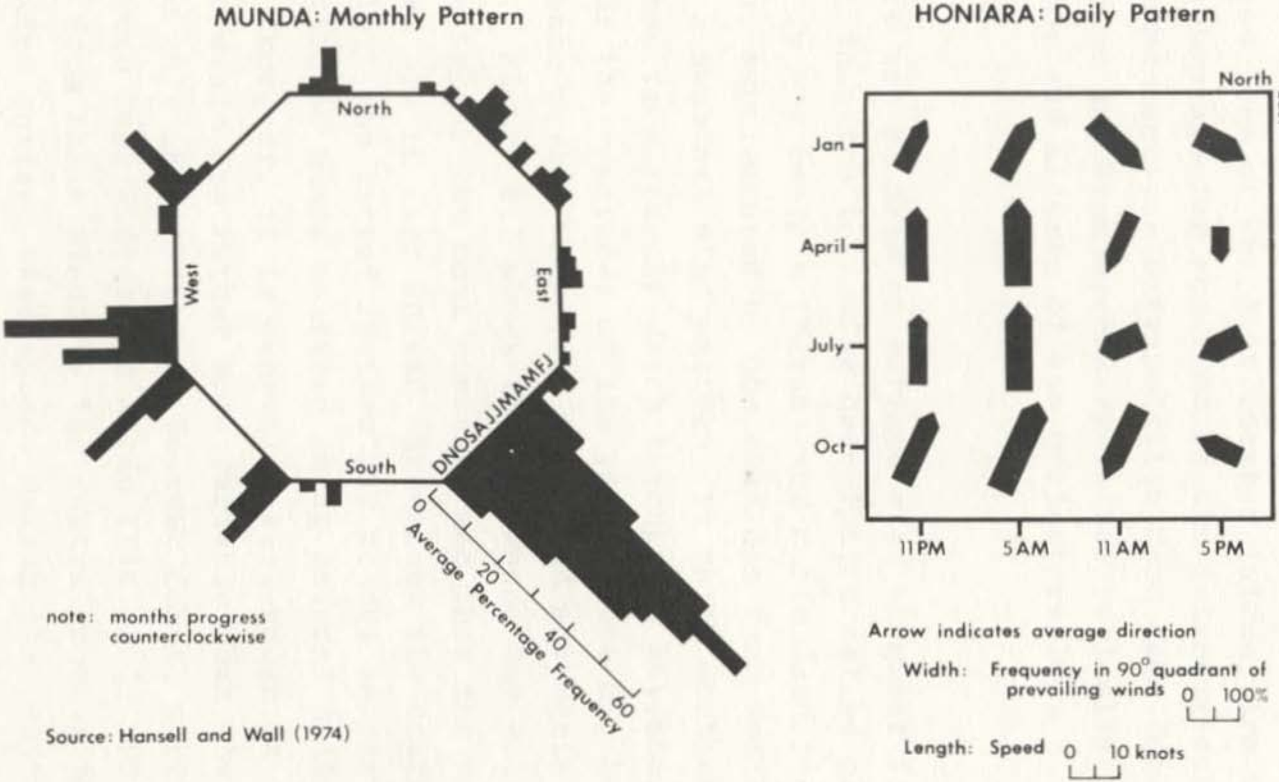
In some respects the climate of the Solomon Islands is uniform. Mean values of temperature and humidity vary little at any given altitude. Winds, though changing seasonally are rarely strong, and the mean annual rainfall varies between 1,500 and 9,000 mm. (Fig. 5.6). In detail, however, the weather is quite varied, particularly in the amount, type and distribution of rainfall in both time and area. Both these general and specific characteristics are very true of the Weather Coast, although information about the degree to which local variations occur must depend as much on intuitive as on quantitative data. There are no professionally run meteorological stations on the Weather Coast, but in 1972 three rain gauges, one of which is located inland, are monitored. Although coverage for the rest of the island group is not much better, some cautious extrapolation from data for other parts of the Solomons has been necessary in the following descriptions of the weather and climate of the project region.

Winds

There are no data on surface wind movement from the Weather Coast, so that the following description relies on that taken from stations in New Georgia (Munda) and north Guadalcanal (Honiara; Fig. 5.6), supplemented by observations from Weather Coast residents. There is a seasonal wind pattern, in which southeasterlies are established from roughly March through to November and northwesterlies for the remainder of the year; there may be several weeks between each period, however, when wind movements are weak and indecisive. Figure 5.7 shows that at Munda the southeasterly trade winds are by far the most constant and that the so-called northwesterlies are in fact spread throughout the southwest to northeast semicircle. The latter feature may be due in part to the particular location of Munda centered among several hilly or mountainous islands. However, it is generally well-known in the islands that "komburu" winds are rather more variable than the southeasterlies (ara) and this applies to the Weather Coast, particularly the area between Cape Hunter and Marau (Fig. 2.1), which is somewhat screened from these winds by the central mountains.

Daytime surface wind speeds during the southeasterlies are commonly from 10-25 knots, which if sustained are sufficient to restrict the movement of small 'T' class and administrative boats around the exposed, steep Weather Coast. Between seasons, and on occasions in the northwesterly season, there may be calm, windless periods of several days duration. At Duidui, the days when the komburu is blowing are marked by periods of fierce gustiness, when bamboo poles are hastily lain over loose thatch in an effort to

Figure 5.7



PREVAILING WINDS AT MUNDA AND HONIARA, 1957–61

RN

anchor it down, interspersed with rather eerie calms which may last several hours. Another feature of these gusty periods is the suddenness with which they begin and end.

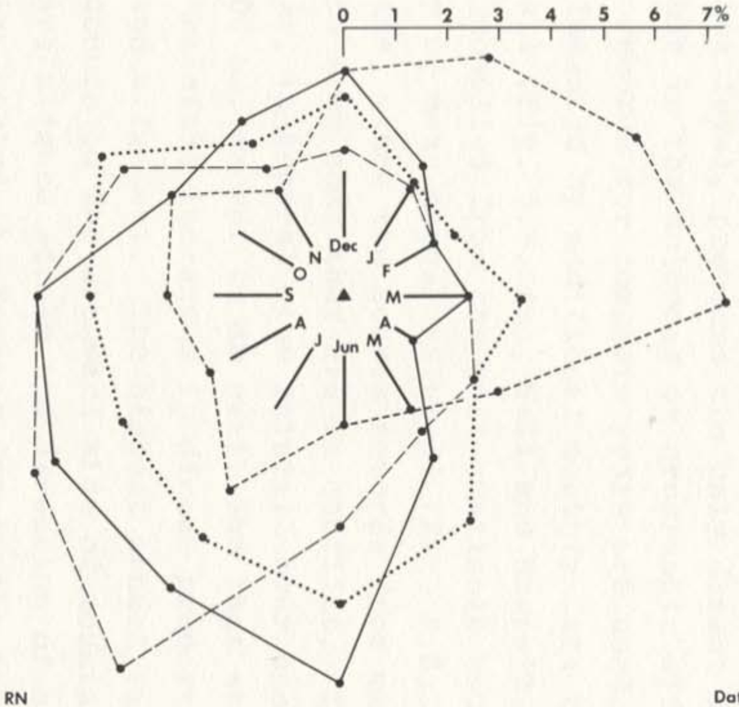
Superimposed on the general wind circulation is a clear diurnal pattern on islands with a mountainous interior such as Guadalcanal. During the night, cold mountain air drains downhill beneath warmer, lighter air at the coast and creates night breezes of 5-10 knots in strength. These can be expected to be particularly marked on the Weather Coast in the northwesterly season. Conversely, the same convectional mechanism during the daytime tends to cause sea breezes when the land heats up faster than the sea and draws in the relatively cool sea air, particularly from about 10 a.m. to 5.0.m. This effect can be expected to reinforce daytime trade winds during the southeasterly season on the Weather Coast. These features are well demonstrated in Fig. 5.7, from Honiara on north Guadalcanal, where land-sea heat/pressure differential overcomes to a large extent the general wind circulation. The wind pattern at Honiara might be expected to be reversed in crude form on the Weather Coast.

Cyclonic disturbances escalating into hurricanes, may develop along the ITCZ, particularly as it reaches the area to the northeast of the Solomons between January and April. Once generated, these unstable, turbulent eddies tend to move southwards and intensify. Associated winds sometimes exceed 100 knots in gusts and cause considerable damage, but usually such strong winds are confined to 20 km-wide belts in the Solomon Islands. Within the belt of severe damage, vegetation is entirely denuded and some trees uprooted. Coconut plantations are devastated and villages built from local materials may be entirely destroyed. Such severe winds directly affected the Weather Coast in October 1966, when a new track had to be cut between Bokasughu and Pichahila (Fig. 2.1) because of fallen trees and debris, and again at north Marau in 1971. Though areas so affected on the Weather Coast appear to be quite limited, there is less shelter from the effects of the big seas which build up at such times. Coastal, sea-level settlements are particularly vulnerable to wave destruction and, in January 1952, Avuavu and Tangarare missions were entirely destroyed by high seas which also altered the coastline (Sister Veronica, 1955). In January 1972, one of the project sites, Haimarao (Fig. 2.1), was swept by hurricane-propelled seas so that by September, when the survey began, virtually all the previous inhabitants had dispersed to new settlements some distance inland.

Rainfall is the most varied of the climatic factors and one of the distinctive features of the Weather Coast environment. Four rain gauges are sited on or near the Weather Coast (Fig. 5.6), of which Chikora Station in the middle Koloula Valley, at 400 meters above sea level, provides the only direct information currently available in the Solomons on orographic effects. In Tables 5.1-5.8, only records for complete years are used; for some years they are supplemented by additional monthly data to produce mean monthly rainfall (Fig. 5.8, Ash, Wall and Hansell, 1974).

Although compiled from the best available sources, the Protectorate summary of mean annual rainfall (Fig. 5.6) is not particularly accurate, since the source records from many stations are short-term, and from some they are in conflict. The isohyet pattern shows that, in general, the rainfall over oceanic areas is less than 4,000 mm. except in the east, and that wherever islands occur average rainfall increases in direct proportion with their size, height and alignment. The highest annual rainfall, as on Guadalcanal, occurs on the windward side of mountainous large islands that are aligned across the direction of southeasterly winds. In the mountains behind the Weather Coast, the maximum mean annual rainfall is thought to be about 8,000 to 9,000 mm, thereby rivalling the highest in the world, and contrasting with the equally distinct rainshadow area of less than 2,000 mm in the lee of the mountains only 30-40 km to the north.

There is a clear seasonality in rainfall distribution on the Weather Coast. Maximum rain falls between May and October on the southern coast while further west at Tangarare the maximum is from



MEAN MONTHLY RAINFALL

EXPRESSED AS A PERCENTAGE
OF MEAN ANNUAL RAINFALL

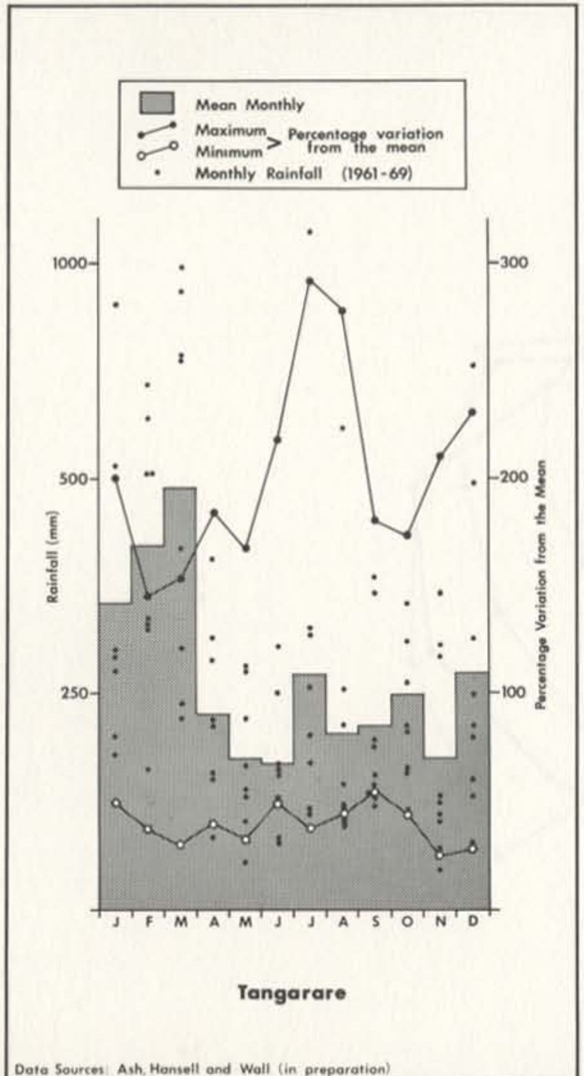
Station and Years of Available Records

- Chikora (1969-73)
- Avu Avu (1961-68)
- Tangarare (1961-69)
- Makina (1961-69, 1971)

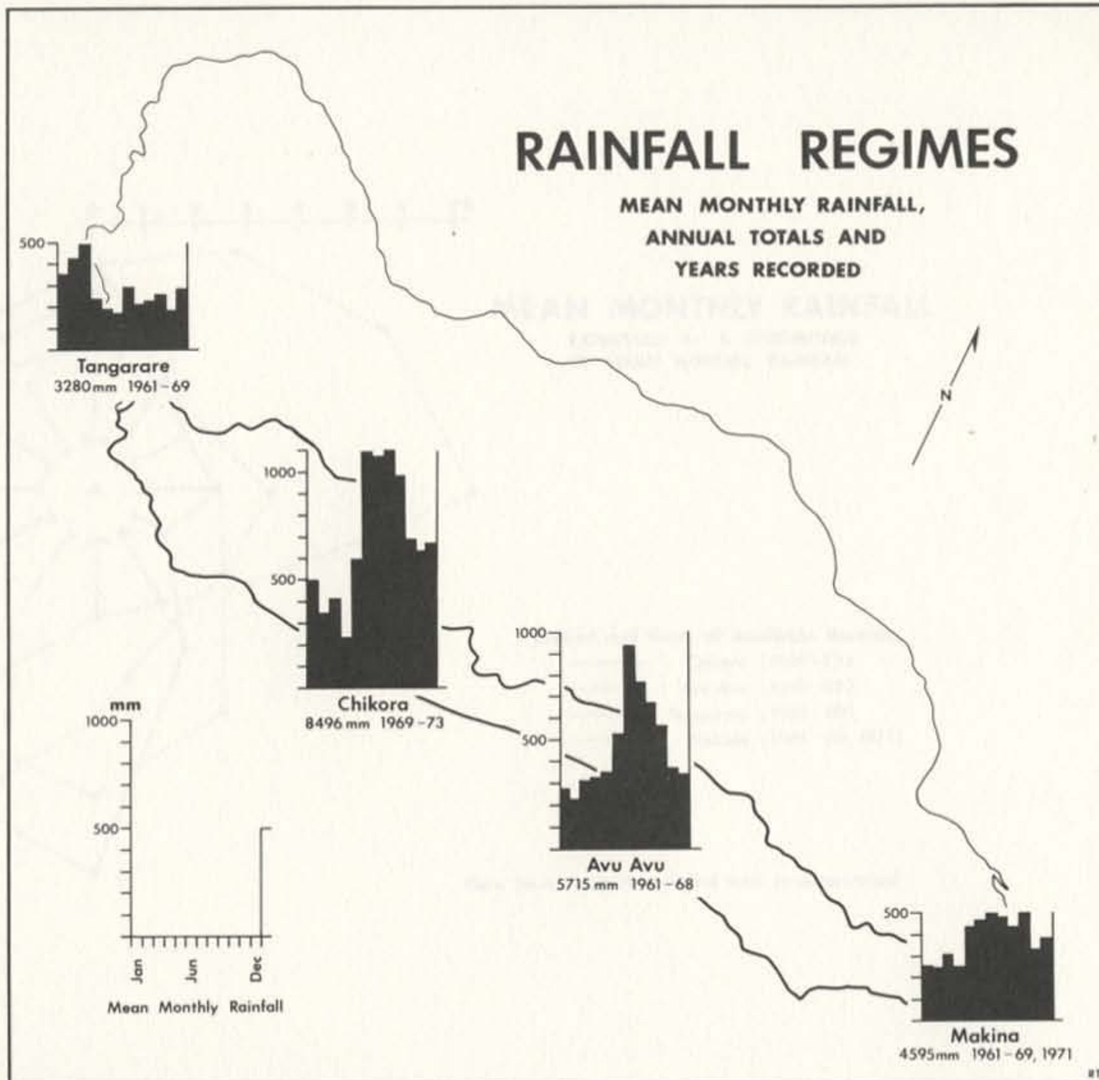
Data Source: Ash, Hansell and Wall (in preparation)

Figure 5.8

Figure 5.9



Mean Monthly
Maximum
Minimum
Percentage variation from the mean
Monthly Rainfall (1961-69)
1000
500
250
300
200
100
Rainfall (mm)
Percentage Variation from the Mean
J F M A M J J A S O N D
Tangarare
Data Sources: Ash, Hansell and Wall (in preparation)



RAINFALL REGIMES
MEAN MONTHLY RAINFALL, ANNUAL TOTALS AND YEARS RECORDED
N
500
Tangarare
3280 mm 1961-69
1000
500
Chikora
8496 mm 1969-73
1000
500
Avu Avu
5715 mm 1961-68
500
Makina
4595 mm 1961-69, 1971
mm
1000
500
Jan
Jun
Dec
Mean Monthly Rainfall
RTN

January to March (Figs. 5.8 and 5.9). There is, therefore a marked difference in rainfall regime but only a small variance in the number of raindays (Tables 5.1-5.7) between the Weather Coast, which receives most rain in the southeasterly season, and the rest of Guadalcanal which has more rain during the northwesterlies. Most Weather Coast rain is orographic in origin. Moist, southeasterly trade winds rise abruptly (to 1,500 meters altitude within only 4,000 meters of the coast in places) to cross the mountainous spine of the island and in so doing cool rapidly, reach saturation point and thus lose moisture as rain on these windward slopes. Rain falling in the remainder of the year is largely convectional or cyclonic.

Rainfall intensities vary widely. At Kongga Station, north central Guadalcanal (Fig. 5.6) brief, heavy falls from cumulo nimbus groups predominate at rates of more than 25 mm/hour and these tend to occur in the afternoon. Maximum intensities of 150 mm/hour rarely last longer than 30 minutes, 100 mm/hour for as long as two hours and 50 mm/hour for several hours. On the Weather Coast, catastrophic falls of 600 mm/day are the highest recorded for the Solomons yet daily totals of more than 250 mm occurred at Chikora 12 times during 1972 but only once in each of the two preceding years. The average fall per rainday varies both in time and area (Table 5.8) and is chiefly influenced by seasonal orographic effects.

Table 5.8

AVERAGE RAINFALL (mm) PER RAINDAY AT TANGARARE (1962-1969) CHIKORA (1970-72), MAKINA (1962-69, 1971), AND AVUAVU (1962, 1967-68)

	J	F	M	A	M	J	J	A	S	O	N	D
Tangarare	18	25	24	12	10	11	14	12	12	13	11	17
Chikora	23	18	18	11	25	38	52	52	41	21	28	28
Makina	14	13	15	13	21	24	21	20	21	22	20	20
Avuavu	11	11	13	15	14	18	39	25	29	26	26	23

Table 5.1

NUMBER OF RAINDAYS[a], LENGTH OF WET SPELLS[b] AND DRY SPELLS[c] AT MAKINA 1962, 1964-69, 1971

Year	J			F			M			A			M			J			J			A			S			O			N			D			Annual Total		
	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD(%)	WS	DS
1962	15		5	25	22	5	21	5 6		20	9	5	24	11 5		22	5 6		21	11		27	10 7 5		27	23		23	6	5	22	10 8		23	6 10	5	74	18	5
1964	17			15			20	5	5	16	5		14			19	6		20	8	5	18	5 5		20	10	7	24	5 8 7		12		5	21	5		60	10	4
1965	24	11 5		8		9 6	19	7 8	6	26	12 7		27	11 9		21	5 9	5	27	18 9		20	10 9		19	5 7		22	7 8		17	6 7	5	19			68	20	5
1966	22	13		21	8 7		28	10 9 8		17	5		26	15 6		20	12		22	9 5		22	5 7 6		18	9		18	9	7	22	5 5 9		24	7 5		71	22	1
1967	22	11		17	8 5	5	24	9		22	11 6		29	8 19		24	6 5 12		20	5 7		29	23 6		25	7 11		28	15 9		25	18		19	7 5		78	22	1
1968	21	6 8	5	23	6 14		18	5 6	5	17	5	6	16	13	6 6	24	8 6		29	18 11		11	6	6 6 5	14	8	6	14		12	15	5		18	6	6	60	16	11
1969	17	6 5		21	6 10		12		6 5	21	5 8		19	6		18			20	7 5	6	21	7		15		6	18	6		13	5	6 5	10		6 5	56	12	8
1971	13		6	14		5	14		8	18	11		15		6	19	8		20	8 5	6	17	6 5	5	20	6		14	6	5	6		18	15	6 5	5	51	10	9

[a] Number of days with recorded rain
[b] Five days or more with recorded rain
[c] Five days or more with cumulative rainfall less than 1 mm.

Table 5.2

NUMBER OF RAINDAYS[a], LENGTH OF WET SPELLS[b] AND DRY SPELLS[c], AVUAVU 1962, 1967-68

Year	J			F			M			A			M			J			J			A			S			O			N			D			Annual Total		
	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD(%)	WS	DS
1962	17	5	6	22	5 15	5	24	8 6		22	11		20	11 7	7	22	5		23	16	5	22	13	6	22	13 5		12	6	15 5	15	5	6	23	5 6		67	17	8
1967	28	9 8 10		20	8 5		20	5 6		8		13	23	11		14	5	8	20	8 5	5	27	6 11 9		25	8 8		12		13	23	10 5		19			68	18	4
1968	21	6		19	11	8	18	6	5	22	5 7 8		11		16	20	9		29	16 5 8		19	10		18	10		16	8	5	13	5	8 7	17	6	5	61	15	7

[a] Number of days with recorded rain. [b] 5 days or more with recorded rain. [c] 5 days or more with cumulative rain less than 1 mm.

Table 5.3

NUMBER OF RAINDAYS[a], LENGTH OF WET SPELLS[b] AND DRY SPELLS[c], CHIKORA 1970-72

Year	J			F			M			A			M			J			J			A			S			O			N			D			Annual Total		
	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD(%)	WS	DS
1970	20	7 8	5	23	12 6		24	5 6 6		15			25	19		21	5 14		25	14 5		20	9 5	5	21	10		20			25	13		22	6 9		71	18	2
1971	26	13 5		20	6 6 5		28	20 8		19	8 6		27	8 14		25	6 17		22	12	5	23	9 9		24	8 11		27	13 7		20	11 8	9	23	9 10	5	78	24	3
1972	20	14	5	18	7 10		24	5 8 6		25	15		28	7 8 12		25	16		28	6 8 11		25	5 15		27	11 7 8		26	6 13		21	5 6 6		26	5 14		80	26	1

[a] Number of days with recorded rain. [b] Five days or more with recorded rain. [c] Five days or more with cumulative rain less than 1 mm.

Table 5.4

NUMBER OF RAINDAYS[a], LENGTH OF WET SPELLS[b] AND DRY SPELLS[c], TANGARARE 1962-69

Year	J			F			M			A			M			J			J			A			S			O			N			D			Annual Total		
	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD	WS	DS	RD(%)	WS	DS
1962	22	5		20	15		20	6	5	25	6 5 6 6		24	7 5 5		16		5	16			21	6 8	6	24	16		19	10 5	8	15	8	7	26	11 8 6		62	19	5
1963	22	7 7		15			18	6 6	7	17	5 5	5	11		9 6	15	6	8	21	12	7	20	5		24	5 8 8		25	9 12 5		14		6 9	19	10	9	60	16	9
1964	16	6	6 5	20	10		27	8 19		26	18	6	21	7 6	5	14	6 5	7	20	6 5	5	17	6	10	21	10		27	11 8 7		21	9 5		15		8	67	18	8
1965	23	13		19	5 7		24	5 12		23	7 7 5		21	6 8	5	22	6 8		28	16 13		15	5 5	9 5	16	5 5	7	16		5 7	15	6	7 6	22	5 7 5		67	22	8
1966	16	5 8	5 5 7	17	8 7	10	21	6 9	5	22	5 9 7		17	5	5 9	14	5	5	9	5	5	14	5	7	9		10 5	15	9	8 5	13	6	5 7	13		6	49	15	16
1967	29	22		25	6 19		22	5 12	5	17	5		20	7 8		12	7	7 10	15	5	8 5	14	5	7	18	5		16	6	5	15	5	5	10		5 14	58	14	10
(1968)	No data			19	6 9	7	20	11		16	5	5	14	5	8	20	7 6		25	10		14	7	10	22	10 6		18	6		16			15		7 5	(60)	(12)	(6)
1969	13		5 5	23	12		16	5		9		14	11		12	12		8	15	5	6	20	5 7		12		5 7	18	6 9		7		13	16	10	10	47	7	10

[a] Number of days with recorded rain

[b] Five days or more with recorded rain

[c] Five days or more wtih cumulative rain less than 1 mm.

Table 5.5

AVERAGE NUMBER OF RAINDAYS PER MONTH AT TANGARARE (1962-69), CHIKORA (1970-72), MAKINA (1964, 1962-69) AND AVUAVU (1962, 1967-68)

Station	J	F	M	A	M	J	J	A	S	O	N	D	Average Annual Percentage
Tangarare	29	17	21	19	17	16	19	17	18	19	14	17	59
Chikora	22	20	25	20	27	24	25	23	24	24	22	24	76
Makina	19	18	20	20	21	21	22	21	20	20	17	19	65
Avuavu	22	20	21	17	18	19	24	23	22	13	17	20	65

Table 5.6

AVERAGE LENGTH OF WET SPELLS (AVERAGE NUMBER OF WET SPELLS) PER MONTH AT TANGARARE (1962), CHIKORA (1970-72), MAKINA (1962, 1964-69, 1971), AND AVUAVU (1962, 1967-68)

Month	J	F	M	A	M	J	J	A	S	O	N	D	Annual Average Number
Tangarare	9(1)	9(1)	9(2)	7(2)	6(1)	6(1)	8(1)	6(1)	8(1)	8(2)	6(1)	8(1)	16
Chikora	9(2)	7(2)	8(2)	10(1)	11(2)	12(2)	9(2)	9(2)	9(2)	10(2)	8(2)	9(2)	23
Makina	7(1)	10(1)	7(2)	7(1)	10(1)	7(2)	9(2)	8(2)	9(1)	8(1)	8(1)	6(1)	17
Avuavu	8(2)	9(2)	6(2)	8(1)	10(1)	6(1)	10(2)	10(2)	9(2)	7(1)	6(1)	5(1)	17

Table 5.7

AVERAGE LENGTH OF DRY SPELLS (AVERAGE NUMBER OF DRY SPELLS) PER MONTH AT TANGARARE (1962-69), CHIKORA (1970-72), MAKINA (1962, 1964-69, 1971), AND AVUAVU (1962, 1967-68)

Month	J	F	M	A	M	J	J	A	S	O	N	D	Annual Average Number
Tangarare	5(1)	8(<1)	5(<1)	7(<1)	6(1)	7(1)	6(1)	8(1)	7(1)	7(1)	7(1)	8(1)	9
Chikora	Only six dry spells recorded in three years.												
Makina	5(<1)	6(1)	6(1)	5(<1)	6(<1)	5(<1)	6(<1)	6(<1)	6(<1)	7(<1)	13(1)	5(1)	5
Avuavu	6(<1)	6(1)	5(<1)	13(<1)	11(1)	8(<1)	5(1)	6(<1)	0	9(1)	7(1)	5(<1)	6

During 1972, 13,452 mm of rain fell at Chikora (Fig. 5.9), equivalent to over 13 tons of water per square meter. The heaviest prolonged rainy spell spanned 18 days in August-September, when 3,760 mm was recorded at an average of 209 mm/day. During that period alone the Koloula drainage basin (Fig. 5.2) received 192,000,000 tons of water, assuming an even distribution throughout the catchment area.

The effect of such intense rainfalls is dramatic. The soils of the mountains are not deep and rapidly become saturated. Prolonged, heavy rain therefore results in rapid surface runoff and this, allied to the ubiquitous steep slopes, promotes much surface wash of clay and silt. In addition, saturated soil is potentially unstable owing to reduced friction and greatly increased weight of the material on steep slopes. In these circumstances a slight earth tremor, or strong winds causing a large tree to fall over and bring with it several others is sufficient to create landslips, debris slides, slumps and allied micro erosional features. All this eroded material is fed into gullies and streams and concentrated in the deep, narrow valleys where it may cause a rise in water level of several meters. Continual heavy rain will also damage subsistence root crops to the extent that after cyclonic rain, in particular, the central government inevitably receives pleas for help from foodless villages.

Probably one of the most marked features of the Weather Coast or, indeed, the Solomon Islands is the erratic nature of its rainfall. It seems that all the physical factors of relief and rain type conspire to produce frequent, short-lived rain storms over small surface areas. Even cyclonic rain does not generally extend much beyond a 50 km-wide front, and other orographic or convectional rain cloud groups may affect only a few square kilometers at a time, such that one valley may receive a downpour while adjacent valleys are dry. The result is that histograms show a wide distribution outside the mean, both in terms of

Table 5.9

CHARACTERISTICS OF WEATHER COAST SOILS

Soil association	Soil unit	Soil description (and classification)	Parent material	Landform	Inherent fertility
AB	A	Deep, very poorly drained reddish brown peat or muck (Tropohemists)	Organic accumulations	Fresh water swamps in valleys and former lagoonal areas	Partly humified organic matter, acid to neutral, base-rich, low reserve nutrients
	B	Deep, very poorly drained grey to bluish green clays (Tropaquents)	Consolidated alluvium		Unweathered, weakly acid to alkaline, base-rich, medium to high reserve nutrients
CD	C	Deep, excessively to freely drained, pale loose sands and gravels (Tropopsamments)	Mineral beach sands	Narrow beaches	Unweathered, weakly acid to acid low in available nutrients and reserve potassium
	D	Shallow to deep, excessively to poorly drained, pale stony sands (Troporthents)	Coral detritus	Reef platforms	Weakly weathered, alkaline, low in available and reserve nutrients
GH	G	Deep, well to imperfectly drained, brown to olive brown loams and clays (Eutropepts)	Basaltic colluvium and Riverine alluvium	Coalescent fans, sub-recent flood plains and low terraces	Weakly weathered, weakly acid to neutral, base-rich, with medium to high reserve nutrients except potassium
	H	Shallow to deep, well to imperfectly drained, brown to yellowish brown loams and clays (Tropofluvents)		Flood-plains	Unweathered, weakly acid, base-rich with moderate to high reserve nutrients
HD	H	Shallow to deep, well to imperfectly drained brown to yellowish brown loams and clays (Tropofluvents)	Riverine alluvium	Flood-plains	Unweathered, weakly acid, base-rich with moderate to high reserve nutrients
	D	Shallow to deep, well to excessively drained, boulders and gravelly loose sands (Troporthents)			Unweathered, weakly acid to acid, low in available nutrients and reserve potassium
IOG	I	Shallow to deep, freely drained yellowish brown to yellowish red clays (Dystropepts)	Basaltic volcanics	Long, steep, unstable slopes	Weakly weathered and leached, acid, base-poor with low reserve nutrients except magnesium
	O	Shallow to deep, freely drained, humus-rich brown to strong brown loams (Humitropepts)		Crestal areas at high altitude	Weakly weathered, weak to moderate acidity, base-poor with low reserve potassium
	G	Shallow to deep, freely drained, brownish clays (Eutropepts)		Long, steep, unstable slopes	Weakly weathered, moderately acid, base-rich with low reserve potassium
IOK	I	Shallow to deep, freely drained yellowish brown to yellowish red clays (Dystropepts)	non-calcareous volcanic sediments	As above	Weakly weathered and leached, acid, base-poor with low reserve nutrients except magnesium
	O	Shallow to deep, freely drained, humus-rich, brown to strong brown loams (Humitropepts)		Crestal areas at high altitude	Weakly weathered, weak to moderate acidity, base-poor with low reserve potassium
	K	Deep, freely drained, yellowish red to red clay (Tropohumults)			Strongly weathered and leached, acid with low available and reserve nutrients
JI	J	Deep, freely drained, yellowish red to red clay (Haplorthox)	Calcareous and non-calcareous sediments	Terraces and stable crestal areas	Very strongly weathered and leached, acid with very low available and reserve nutrients
	I	Deep to shallow, freely drained, yellowish brown to yellowish red clays (Dystropepts)		Long to short slopes	Strongly weathered and moderately leached, acid, base-poor with low reserve nutrients
JSI	J	Deep, freely drained, yellowish red to red clay (Haplorthox)	Ultra-basic and basic volcanics	Rounded, stable crestal areas	Very strongly weathered and leached, acid with very low available and reserve nutrients, high heavy metal concentrations
	S	Deep, freely drained, yellowish red to red clay (Acrorthox)			Extremely weathered and very strongly leached, with very low available and reserve nutrients, high heavy metal concentrations
	I	Deep to shallow, freely drained yellowish brown to yellowish red clays (Dystropepts)		Long to short, unstable slopes	Weakly weathered and leached, acid, base-poor, with low reserve nutrients

monthly and annual rainfall (Fig. 5.9) and that for predictive purposes the mean or modal rainfall statistic is meaningless.

In continually wet areas such as the Weather Coast, perhaps the most important feature of rainfall is the length and frequency of periods that it does not occur. With a period of five or more days without rain, there is a good opportunity for free-draining, yet saturated soils to dry out as well as soil fauna and flora. Dry periods exceeding 10 days, by causing plant wilt, can be as detrimental to crop growth as excessively long wet spells. The extent of wet and dry spells at four stations around the Weather Coast is presented in Tables 5.1-5.4. It is clear from these that the main differences are between the mountainous areas represented by Chikora, the coastal areas on which Makina and Avuavu are sited, and the zone of northwestern climate represented by Tangarare. At Chikora, there are on average two lengthy wet spells each month and scarcely any dry periods; on the southern coast an average of 5-6 dry spells of short duration each year; but in the northwestern coastal areas more dry spells occur and are of slightly longer duration. Despite these differences, there seems to be little difference in the frequency of wet spells or the number of raindays between the four Weather Coast stations (Tables 5.5-5.7).

To summarize the salient features of Weather Coast rainfall: in the mountains rainfall is of very high frequency throughout the year with common, prolonged wet spells and rare dry periods; intense orographic rainfall is particularly heavy from June to September. On the southern coastline, there is a small number of dry periods occur but the yearly distribution of wet spells is relatively uniform. Further west, at the coast, there are more and slightly longer dry periods during the middle of the year with the heaviest rain experienced from December to March.

Temperature

Mean monthly temperatures throughout the Weather Coast, although high, vary little from the mean, and the mean monthly range at sea level of 1-3°C is greatly exceeded by the diurnal range of 11°C. Data from Honiara show that, at sea level, mean daily maximum temperatures are about 31°C and mean daily minimum about 20°C. Temperatures decrease with increasing altitude, at the rate of 0.7-1.0°C per 100 meters, so that minimum night temperatures at 1,000 meters can be expected to be 10-13°C and on the summit of Mt. Makarakomburu (2,460 meters) it is possible that night frosts occur.

Within tall forest, temperatures are noticeably cooler than in low forest or garden land despite a lack of air movement. The coastal strip is cooled significantly by sea breezes and exposed high ridges appear to receive cooling breezes much more than adjacent deep valleys. At higher altitudes about 1,000 meters, exposure on summits is considerably greater and winds have a marked cooling effect on both the crests and windward flanks of the ridges.

Evaporation

Evaporation from the ground surface and vegetation surfaces is controlled largely by air temperature and humidity. Contributory factors are the amount of cloud cover, air turbulence and windspeed, together with vegetation type and density, and moisture content of the soil. In the Solomon Islands, potential evaporation rates are theoretically low despite high temperatures because of the high humidities, low wind speed and dense vegetation.

Measurements of daily evaporation have been taken for discontinuous periods from 1968-73 at King George VI school, Honiara. From these the approximate daily evaporation rates from an open-water surface range from 0.5-12 mm with a daily mean of 5 mm.

It seems from this that soil moisture deficiencies will occur at some times of the year in the dry areas of north Guadalcanal but that given the rainfall records for the Weather Coast, soil moisture deficiences would be very rare.

As can be appreciated from the foregoing summary, climate has a major influence on both the physical and human aspects of Weather Coast livelihood. The combination of constantly high temperatures and heavy rainfall, although permitting year-round cultivation, induces rapid and continuous chemical weathering of rocks and organic materials, and the rapid transportation of the weathered products. The frequent, devastating rainfalls in the mountains promote rapid erosion and valley-scouring floods and large-scale slope failures of saturated ground result in debris fans at gully mouths. Hurricanes appear largely to skirt the Weather Coast but fringe effects defoliate vegetation, cause the buildup of seas and exacerbate already pronounced high-rainfall phenomena.

In human terms, the climate of the Weather Coast does not increase its habitability. Added to the difficulties of rugged terrain and an inhospitable coast, are the extremely heavy rainfall, prevalent cloudiness, frequent deluges, recurring floods which render the rivers extremely effective barriers to communication, and periodic hurricane weather: it is indeed surprising that so many people successfully live there. Probably the least difficult area from the standpoint of climate is the narrow, low, coastal strip, above the range of storm damage, where rainfall is lowest.

Soils

This account of the soils of the Weather Coast is derived from Hansell and Wall (1974), using information obtained in 1967-68 during a detailed reconnaissance survey of Guadalcanal. Survey methods included detailed air photograph interpretation, supplemented by extensive field work to identify land systems[2]. The location of all site descriptions on the Weather Coast is shown in Fig. 5.10. Since land systems are identified where soils, landforms, lithology and vegetation together form recurring patterns, a map of soil associations can be prepared from their boundaries. However it should be noted that, as with virtually all small-scale soil maps, what is delimited are areas of closely associated and geographically related soils (Fig. 5.10), which are not necessarily pedologically uniform areas, and some of the associations depicted comprise widely different soil types, even though they may be derived from the same underlying rock type.

The soils are described according to the classification scheme, adopted by the U.S. Department of Agriculture Soil Conversation Service (1970), which is used for comparing soils on world-wide basis. Modifications to this scheme have been incorporated from time to time and it is essentially that proposed in 1960, and adopted officially by the USDA in 1965. Many of the soils have apparently similar field characteristics, but this detailed classification also takes into account their mineralogy and chemistry. It is important to distinguish, for instance, between soils that are very strongly weathered and leached of nutrients from those that still retain a utilizable supply of plant food. Technical information on soil profiles and ratings on subsoil fertility have deliberately been omitted from this draft and will be included in the final version.

The distribution of soils on the Weather Coast forms a simple pattern. On the dominant, steep mountain slopes are immature brownish, slightly weathered loams and clays with little

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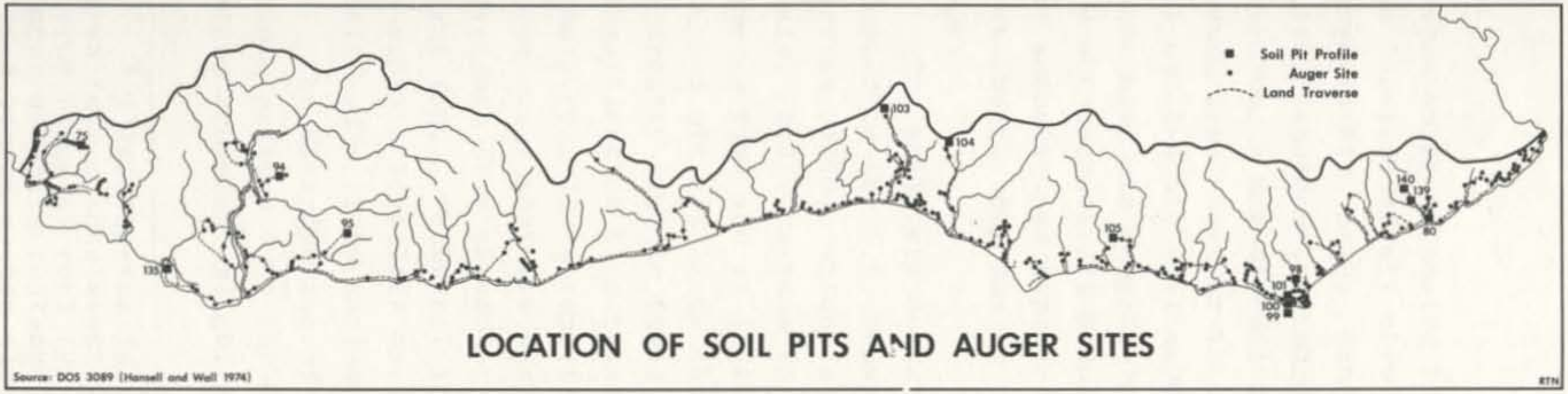
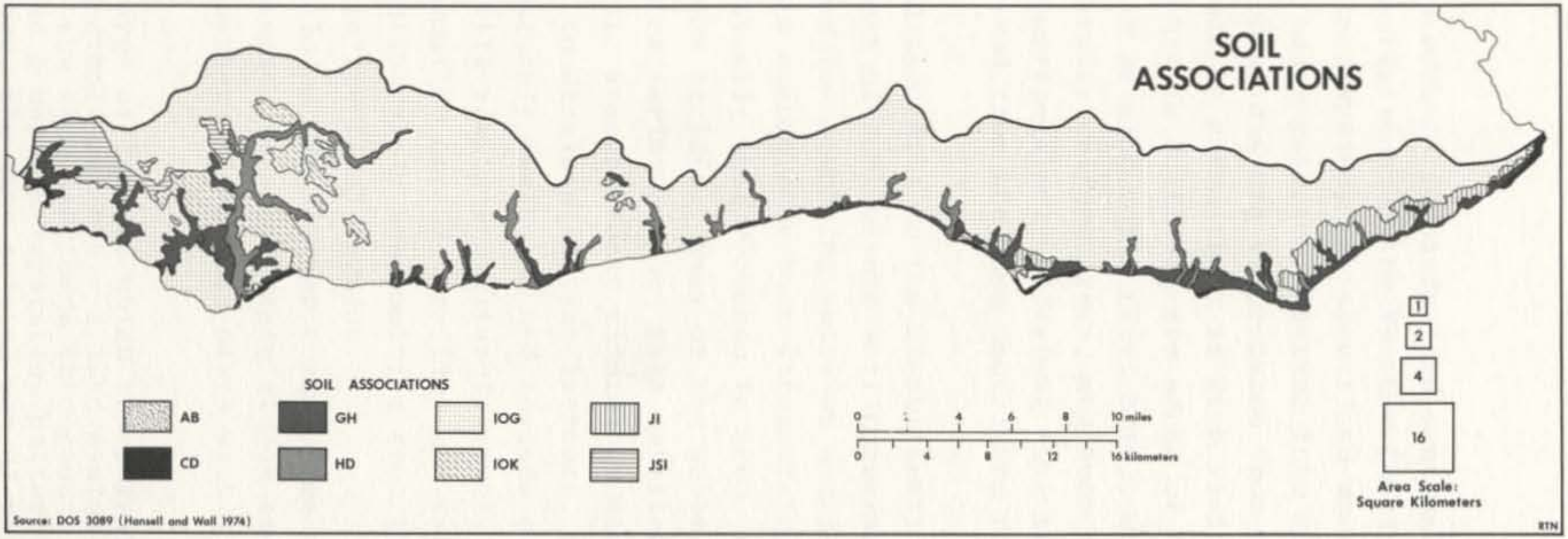
[2] A land system is an area of land in which the physical features form a consistent and simple pattern. A land system has a narrow range of rock types, the same landforms throughout, a small number of soils (Catenas) and a uniform vegetation pattern. When a land system recurs elsewhere, the same related set of physical features prevails.

Figure 5.10


Soil Pit Profile
Auger Site
Land Traverse
103
104
75
94
95
135
105
140
139
80
98
101
100
99
LOCATION OF SOIL PITS AND AUGER SITES
Source: DOS 3089 (Hansell and Wall 1974)
RTN


SOIL ASSOCIATIONS
SOIL ASSOCIATIONS
AB
CD
GH
HD
IOG
IOK
JI
JSI
0
4
6
8
10 miles
0
4
8
12
16 kilometers
1
2
4
16
Area Scale: Square Kilometers
Source: DOS 3089 (Hansell and Wall 1974)
RTN

horizon development, while on the residual, broad summits are reddish, strongly weathered and leached clays. Brownish, moderately weathered, fertile, stony clays and loams have developed on the foothill fans, while on the alluvial plains there is a mixture of undeveloped stony loams in the floodplains and brownish, more weathered loams and clays on the terraces (Fig. 5.10). There are several other less extensive soils, identified during the reconnaissance survey, and the agriculturally more useful types are included in the following descriptions below. The relationship between the soils on the Weather Coast, the map unit in which they occur and a brief description of their physical characteristics are summarized in Table 5.10.

A. Histosol Order (Bog and Organic Soils)

Organic Soils Mostly Comprising Well-Decomposed Peat (Hemists)

These soils consist mainly of well-decomposed, woody and fibrous plant remains which, because of the permanently high watertable, are waterlogged for most of the year. They exceed 40 cm in depth and commonly contain living rootlets in the upper 10-20 cm. There may be a thin surface layer of litter and in places near streams and foothills, recent floods have added fluvial or colluvial layers to the peat to form muck. Only Tropohemists occur to any great extent on the Weather Coast, although there are small patches of Sulfihemists at Marau.

(i) Deep, Very Poorly Drained, Reddish Brown Peat or Muck (Tropohemists)

Tropohemists occur in freshwater swamps close to sea level, where surface drainage is impeded by marine deposition of sandy material at the shoreline. They are found in small areas at Marau, Lauvi Lagoon and in the Tina Valley, (Fig. 2.1). There are also reports of marshy or peaty soils at high altitudes, such as on the broad summit plateau of Mt. Popomanaseu (Fig. 2.1), where there is a similar imbalance between the rates of litter accumulation and of oxidation and mineralization. The high-altitude

Table 5.10

UNITED STATES SOIL CONSERVATION SERVICE SOIL CLASSIFICATION, UNITS AND MAJOR SUBUNITS

	Map unit and description	Order	Suborder	Great Grou
A.	Deep, very poorly drained, reddish brown peat or muck	Histosol	Hemist	Tropohemist
B.	Deep, very poorly drained, grey to bluish green clay	Entisol	Aquent	Tropaquent
C.	Deep, excessively to freely drained, dark to pale loose sands		Psamment	Tropopsamment
D.	Deep to shallow, excessively to poorly drained, pale to dark stony sands		Orthent	Troporthent
H.	Deep to shallow, well to imperfectly drained, brownish mottled clays and loams		Fluvent	Tropofluvent
G.	Deep to shallow, freely drained dark brown clays and loams	Inceptisol	Tropept	Eutropept
I.	Deep to shallow, freely drained, brown to red loams and clays			Dystropept
O.	Deep to shallow, freely to imperfectly drained, humus-rich, brown loams and clays			Humitropept
K.	Deep, well drained, yellowish red to red clay	Ultisol	Humult	Tropohumult
J.	Deep, freely drained, yellowish red to red clay	Oxisol	Orthox	Haplorthox
S.	Deep, freely drained, yellowish red to reddish brown clay			Acrorthox

Source: USDA Soil Conservation Service (1970).

peats are probably formed largely of moss which tends to be common on ridge summits at heights above about 1,000 meters. The high proportion of moss in these soils probably places them in the suborder Fibrists but such areas are unimportant for agriculture.

Lowland peats characteristically have a high (organic) cation exchange capacity (CEC), which may be undersaturated with cations although the levels of individual bases except potassium are high. The nutrients are held predominantly in the available form, and total or reserve (strong acid-extractable) levels of potassium especially tend to be low. The peat may be raw with wide carbon: nitrogen ratios. Shallow, freshwater peats (Tropohemists) occur mainly in Soil Association AB (Fig. 5.10). They are of low agricultural value due to their permanently high watertable and are not used for food crops: However the sago palm thrives in these areas and provides an important source of roofing material.

B, C, D, H. Entisol Order (Azonal Soils like Lithosols and Alluvium)

Young Soils with Little or no Horizon Development (Aquents, Psamments, Orthents, Fluvents)

Entisols may be young in absolute terms, that is: composed of recently deposited beach sand or river alluvium; or they may have delayed development through being located on steep sites or in places where weathering is impeded by waterlogging. Whatever their origin, they reflect the character of their parent material with little or no modification. Such soils also lack diagnostic features except for a thin, pale-coloured or peaty topsoil.

(i) Deep, Very Poorly Drained, Grey to Bluish Green Clay (Tropaquents)

Most soils in this group occur in swampy areas. They are finely textured and strongly gleyed throughout most of the subsoil. A thin layer of peat or muck may appear at the surface and in some the lower subsoil is sandy or gravelly. Almost all profiles are deep and the local watertable lies permanently close to or at the surface. On Guadalcanal, these soils have moderate to high exchange capacities saturated with calcium and magnesium; magnesium values in places exceed those of calcium. Potassium and available phosphorus levels appear to be consistently low and in general these soils are weakly saline to acid.

Tropaquents are common in Soil Association AB, to be found in small areas at Marau, Lauvi Lagoon and in the Tina Valley. They are not cultivated because of their poor drainage, but the cost of improving drainage in the Tina valley would not be great.

(ii) Deep, Excessively to Freely Drained, Dark to Pale Loose Sands (Tropopsamments)

The beach deposits along most of the Weather Coast consist of deep, dark brown sand derived from volcanic material. There is no surface run-off and internal drainage is rapid through the structureless profiles. The soils are notably coarse-textured with less than 10 percent clay. Beneath a normally organic-rich topsoil, the CEC is less than 5 me% and almost saturated with calcium and magnesium, although the total exchangeable base level is low. Reserve magnesium is high but potassium is notably low. The soils tend to be acid unless coral fragments are incorporated.

Tropopsamments occupy a narrow strip at the coast, mainly west of Vatulava (Fig. 2.1). The areas are mostly too small to map, except at Lauvi and west of Biti but are used extensively for coconut groves, fruit trees, settlements and tracks. Their inherent overall fertility is low and the effective fertilizing of the porous, sandy materials is made difficult by the inability of the subsoil, in particular, to retain nutrients.

(iii) Deep to Shallow, Excessively to Freely Drained Pale to Dark Stony Sands and Loams (Troporthents)

Troporthents occur on coral outcrops, on river gravels and on stony debris slides. They generally have little or no surface drainage, internal drainage is rapid, and the subsoil is stony and almost without structure. Depths vary widely, but beneath a dark surface layer of sand or loam there is generally hard broken coral, river gravel or volcanic debris.

The exchange complex is weakly developed, with virtually no ability to retain nutrients beneath the top few centimeters where organic matter may be present. The existence of coral in some profiles is reflected in high levels of pH, carbonate and exchangeable calcium but these may be virtually the only nutrients easily available. On flood plains, the soils are more acid and have better potassium but lower phosphorus status than in coral-derived soils.

Troporthents are common in Soil Association, CD, while Association HD contains them in the valley flood plains and in Soil Association 10G they occur in small localized patches. Their agricultural value is low because of a generally low fertility and susceptibility in places to floods or erosion. Only those developed over coral at Marau are used (for coconuts, settlements and communications), and to improve their quality by fertilizing would be as difficult as for the Tropopsamments.

(iv) Deep to Shallow, Well to Imperfectly Drained, Brownish Mottled Loams and Clays (Tropofluvents)

These soils occur on low terraces and flood plains, where surface run-off is quite slow and the grade of sediments carried is mostly fine sand to clay size. They are found mainly in the lower reaches of valleys, at the margin of flood plains and away from present river courses. The soils may be well drained but many have subsoil mottling and a watertable that rises close to the surface for some periods of the year. Many have stony subsoils at depth but recent sand or silt deposits are commonly found to depths of 20 cm. Beneath the dark topsoil, if present, the soil matrix colors are yellowish brown to olive brown and may be banded. Soil structure is only weakly developed (Fig. 5.11).

It seems, from one profile analysed in northern Guadalcanal, that these soils are quite fertile. The CEC is moderate and the level of the exchangeable bases, although largely dependent on the source rocks, moderate to high. Reserve nutrients also should be moderate to high except in the most sandy horizons. Tropofluvents are common in Soil Association HD, which is found chiefly in the Tina Valley and the flood plains of the larger valleys to the east. They have low agricultural potential and are difficult to use because of irregular flooding, but in places are successfully used for cash crops.

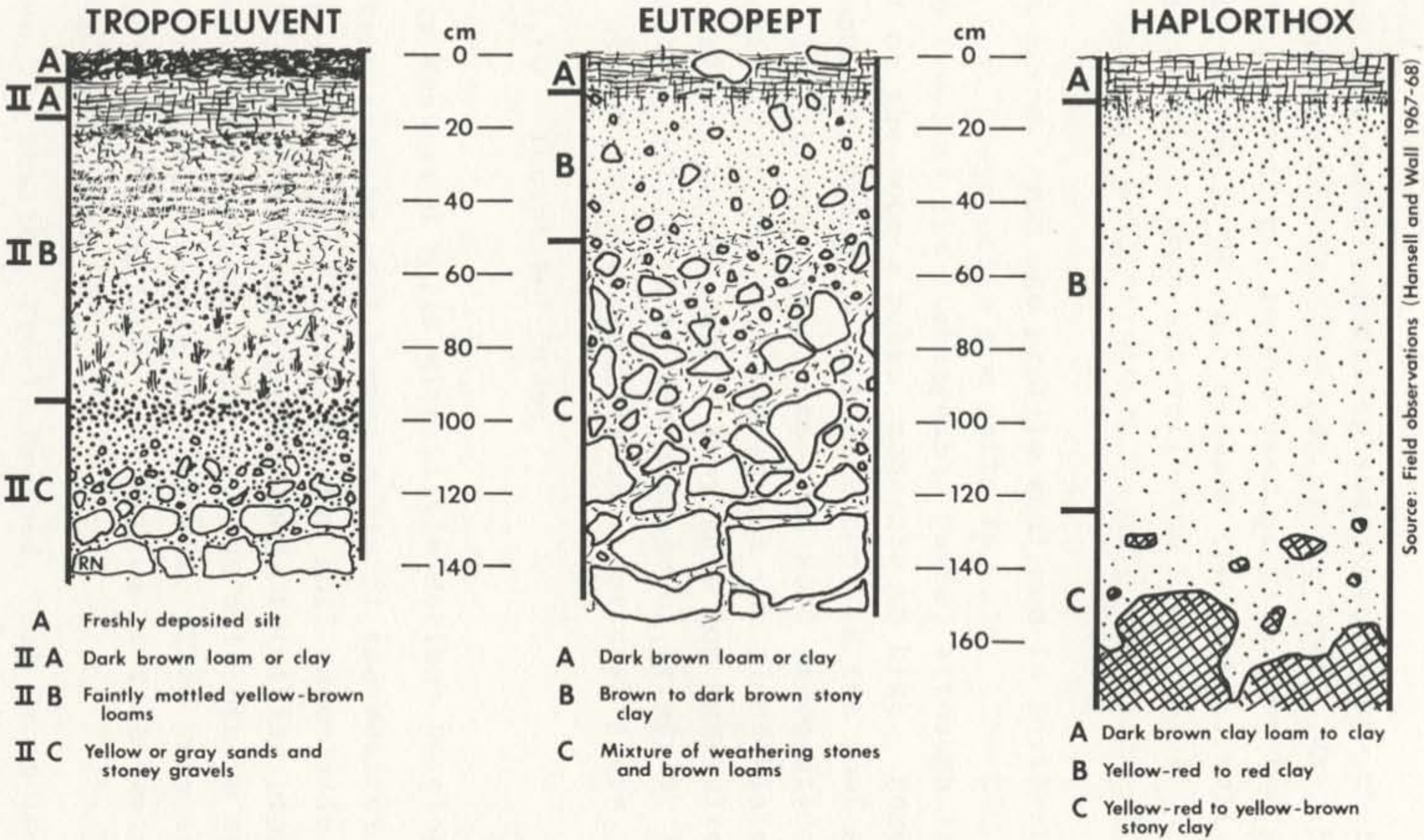
L, G, I, O. Inceptisol Order

Slightly Weathered Soils with Little Horizon Development (Tropepts)

These are the most common soils of the Weather Coast, occupying a large proportion of the IOG soil association in the hilly interior. They are weakly developed, retaining properties largely derived from the parent material, but with others attributable to the local soil-forming environment. They vary in depth, but tend to be fairly shallow, with medium to fine texture, and moderate fertility.

(i) Deep to Shallow, Freely Drained, Dark Brown Loams and Clays (Eutropepts)

On the river terraces of the Tina Valley, in particular, and to a lesser degree the terraces of the valleys further east are soils characterized by deep, generally stone-free profiles,



PROFILES OF THREE COMMON SOILS

Figure 5.11

good to imperfect internal drainage and loamy or clayey textures at or just beneath a surface cover of fresh silt (Fig. 5.11). Their structure is weakly or moderately developed and blocky; their consistency friable or firm. To judge by analyses of similar soils on north Guadalcanal, these soils have a moderate CEC almost saturated with divalent cations but low in potassium. Reserve magnesium is likely to be high but subsoil potassium and phosphorus low. The pH level is probably near neutral throughout the profile. With the exception of their potash status, they have a moderate or good overall fertility and are only rarely influenced by flooding. This, added to their level or gently sloping topography, gives them the highest agricultural potential of any soils west of Avuavu; currently they are used for settlements, subsistence food crops and scattered fruit trees.

Eutropepts also occur on the coalescing colluvial fans that are a feature of the coastal belt east of Avuavu and at the foot of some hills to the west. In both cases they are dark coloured but tend to be more stony and shallower than those of the river terraces. Textures range from stony loams to clays and the soils are well drained. Clay weathering is not far advanced and in the subsoil the exchange complex retains moderate to high levels of calcium and magnesium. Magnesium and phosphorus reserves are good but in all forms potassium is low. The soils are moderately acid.

As with the fluvial Eutropepts to the west, these soils occur on broad, gentle, undissected slopes, which are favoured for agricultural development. Their inherent fertility is moderate to good, except that potassium is notably deficient, and the chief disadvantages are an excessive stoniness and in places insufficient depth. At present they are utilized extensively for subsistence crops, coconut groves, fruit trees, settlements and communications.

On the high, long, unstable mountain slopes of the interior are weakly developed soils. They have in common generally dark yellowish brown or greyish brown colours, loamy to clayey textures and rather shallow depths. The lower subsoil consists of soft sandy patches of weathering rock among a more clayey matrix. Their cation exchange capacity is moderately high, and in spite of strong leaching in the high rainfall there is a sufficient release of cations from the weathering rock to maintain a moderate base saturation.

(ii) Deep to Shallow, Freely Drained, Brown to Red Loams and Clays (Dystropepts)

Dystropepts are widespread among the Weather Coast mountains where they are associated closely with Eutropepts and Humitropepts. There is insufficient evidence available from soil analyses to describe with certainty their relative distribution but while Humitropepts seem most prevalent on crestal areas at high altitudes, Eutropepts and Dystropepts occur more on slopes. The chief difference between the latter two soil classes is in their base saturation; Dystropepts, with a base saturation of less than 50%, occur where either leaching by rain is optimal or replenishment of leached bases by rock weathering is minimal, as at sites on upper slopes and where profiles are deep and free of weathered parent material. Conversely, Eutropepts may be expected to occupy steep, middle and lower slopes where surface wash of clay, silt and organic matter replenishes bases and where profiles tend to be shallow and stony.

Analysis of five Dystropepts profiles shows that leaching does not greatly exceed the rate of mineral release from rocks (Table 5.9). With a low or moderate CEC, the continually weathering rocks in the subsoil yield divalent cations, particularly magnesium, to give a low or moderate base saturation, such that some profiles are close to being classes as Eutropepts. Reserve nutrients are low in the subsoil, except magnesium in some horizons, and the subsoils are moderately acid.

Table 5.9

AVERAGE TOPSOIL AND SUBSOIL ANALYSES OF FIVE DYSTROPEPTS ON STEEP VOLCANIC SLOPES

	pH Water	Exchangeable me % Na	K	Mg	Ca	CEC	% BS	% N	% C	Total ppm P	K	Mg	Avail. ppm P(NH4F)	Clay CEC
Topsoil	5.5	0.2	0.3	3.9	9.4	27.3	38	0.65	4.4	557	3282	6890	14.1	40.7
Subsoil	5.4	0.1	0.1	3.2	2.8	18.6	33	0.07	0.46	315	5115	8383	5.5	43.4

Dystropepts are dominant in Soil Association 10G and common in JI (Fig. 5.10). They were formerly cultivated extensively for subsistence root crops in the mountains, when villages were sited on the crests and upper slopes, but are now used mainly near the coast or alongside the larger river valleys such as the Koloula (Fig. 2.1). Their potential for other than subsistence uses is limited severely by the steepness and instability of the slopes.

(iii) Deep to Shallow, Freely Drained, Humus-rich Brown to Strong Brown Loams and Clay (Humitropepts)

Of the six Guadalcanal profiles analyzed and identified as Humitropepts, all are located above 370 meters and five are above 500 meters on gentle to moderate slopes in somewhat cooler areas than the lowlands. They range from deep to shallow and their profiles contain much weathering rock. All are freely drained and the topsoils are distinctively deep, dark-coloured, and contain much well-humified carbon. In places there is a thin peaty surface layer.

These soils contain clay which has not been strongly weathered and which, combined with the organic matter, provides a moderate to high CEC. Beneath the topsoil the level of bases is only medium to low and consequently the base saturation equally low. Potassium is low in both exchangeable and total forms, while magnesium and phosphorus appear to be adequate only in total form. The soils are moderately acid.

Humitropepts are common in Soil Associations 10G and 10K (Fig. 5.10). They are most often found on the stable upper slope and crestal sites of broad ridges and cuestas. It seems likely that the soils have been used in the past for both settlements and shifting cultivation, but at present they are largely unused.

K. Ultisols (Normally Yellow and Red Podzols)
Strongly Weathered and Leached Soils with Thick Topsoils and Low Base Status (Humults)

There is insufficient evidence to be certain of presence of this soil type on Guadalcanal, but by comparing other islands it is thought that it includes the deep, reddish clays found on the broader summits of ridges and cuestas in the Tina Basin.

(i) Deep, Well-drained, Yellowish Red to Red Clays (Tropohumults)

These soils are believed to be found in areas of high rainfall of west central Guadalcanal where stable areas have developed over sedimentary rocks. Most profiles are stoneless, deep, heavy textured and have an accumulation of surface humus in a deep, dark, loamy topsoil. In Tropohumults, the clays have been strongly weathered and are only moderately active. Leaching has displaced most bases from the subsoil but there is a distinct accumulation in the topsoil of divalent cations that saturate the organic exchange complex. Potassium is very low in all forms, and in most respects the subsoil is poor in available and reserve nutrients. Beneath the topsoil the soils are infertile, and it is therefore imperative that the topsoil quality be retained for successful cultivation.

On the Western Weather Coast, Tropohumults are mapped in Soil Association 10K (Fig. 5.10). They are used in places for subsistence cropping and there are signs of former settlement on them in some inland hilly areas.

J, S. Oxisol Order (Part of the Latosolic and Lateritic Group)
Very Strongly Weathered and Leached Soils (Orthox)

Oxisols occur over a variety of parent materials but mainly where conditions for weathering and leaching are optimal: like terraces, stable crestal sites, and over ultramafic rocks.

(i) Deep, Well drained, Yellowish Red to Red Clay (Haplorthox)

This group is notably uniform in physical characteristics, very few being other than deep, stone-free, red-coloured and well-drained (Fig. 5.11). They are friable to firm when moist, weakly structured, and rooting is concentrated in the upper few centimeters. On the Weather Coast they are common over rounded hills of ultramafic rocks, on broad crests over basaltic rocks and on the gently sloping, stable surfaces of dissected sedimentary rock terraces.

The clays are very strongly weathered and have very low exchange capacity. Beneath the topsoil, bases have been thoroughly leached and levels of all major nutrients are low or very low. Haplorthox, which are moderately acid, occur in the extreme west, to the north of Wanderer Bay, as part of Soil Association JSI (see following section on Acrorthox), and on coastal, terrace areas of Soil Association JI (Fig. 5.10). Although the topsoils in general are moderately fertile they are not deep, and below the humus-rich topsoil are infertile subsoils which in ultramafic areas contain unusually high concentrations of heavy metals. For this last reason Haplorthox in the JSI association have not and should not be used for agriculture, until their chemistry and the response of plants to the unusual mineral composition is understood.

Haplorthox of the JI Soil Association, on the other hand, have been and still are used quite extensively for the cultivation of subsistence food crops. Crop yields can be expected to be satisfactory only as long as nutrients remain in the topsoil. Once these are depleted there is no subsoil reserve and yields will lower drastically. Regular and complete additions of fertilizer are necessary for sustained cash crop production from these physically good soils.

(ii) Deep, Well-drained, Yellowish Red to Reddish Brown Clay (Acrorthox)

These soils resemble the Haplorthox physically and are associated solely with ultramafic rocks. They are among the most strongly weathered soils in the Solomons and consist almost entirely of inert and amorphous iron and aluminium oxides. In the subsoil there are virtually no readily extracted bases and phosphorus and heavy metal concentrations of chromium and nickel are possibly toxic to many plant species.

Acrorthox are only found in Soil Association JSI which, while they have favourable physical qualities, are unsuitable for agriculture because of their mineral and chemical composition. As far as is known, they have never previously been cultivated within the Weather Coast.

Soil Utilization

Superficially, Weather Coast soils appear not to have had a marked influence on human occupation or land use. A specific few are not used for either cultivation or settlement, and in the case of the infertile and possibly toxic Acrothox in the JSI Soil Association this apparently reflects the people's recognition of their complete unsuitability for cultivation. The peaty Hemists (Soil Association AB) are also avoided by local cultivators, probably because of their poor drainage as also are the

Fluvents and Aquents (Soil Associations HD and AB) because of their susceptibility to flooding. With these exceptions, a Weather Coast farmer will consider cultivating any kind of soil within approximately one hour's walk from the village (see chapter 6), provided it is not on obviously unstable ground. Generally land above roughly 1,000 meters will remain unused, irrespective of soil type, and sites for villages are restricted to the level land of coastal, valley or ridge-top sites.

Reasons for avoidance of particular soils for cultivation are apparently related to both soil properties and the type of agriculture practised. Except on the most recent land slips, and even on steep slopes, there is a definite accumulation of organic matter within the top few inches of soil; it is the presence of this which is so important to the adsorption, retention and gradual release of plant nutrients. Humified organic matter acts, in effect, as a sponge which adsorbs and holds the minerals released by the decay of surface litter and, to a lesser degree, from the weathering of rock fragments within the soil. Feeding roots only thrive and ramify where plant food is adequate and invariably it is in the topsoil that they are markedly concentrated. Beneath the topsoil, plant nutrients may be at an extremely low level (as with the Dystropepts, Humults and Orthox) but vegetation can thrive as long as the humus-rich surface horizon remains intact and is continuously replenished by incoming litter and/or surface wash. The natural vegetation of the Weather Coast has a broadly uniform composition and does not reflect soil differences unless they are extreme, such as the Histosols and Entisols (which have unusual properties) and some Orthox with possibly toxic elements. Similarly, crop responses are broadly similar wherever there is a nutrient-rich topsoil.

The cultivation practices used for the production of food staples on the Weather Coast usually does not tax severely the capacity of soils to supply plant food. Sweet potatoes or taro are cultivated for one, two or occasionally three successive crops at a site (see chapter 6), after which the land is left fallow until the soil fertility level is renewed, as reflected in the appearance and quality of regrowth vegetation. This process is essentially one of waiting for the regrowth to recycle nutrients from the subsoil through their tissues and eventually back to the topsoil. Over soils with good subsoil fertility (for example, Eutropepts), this may take less than five years, but over infertile subsoils such as Orthox it may require more than fifteen years. However, this bush fallow system, unlike permanent or perennial cash crops that continually extract soil nutrients, permits the renewal of natural soil fertility and enables almost all soils to be used, albeit with a varying degree of intensity and success.

The major deficienty of most subsoils and some topsoils throughout most of the Weather Coast is potassium, followed by phosphorus. Should cash crops ever be grown intensively, then the farmer using most Weather Coast soils and particularly the Orthox will have to be educated to the need for fertilizers to achieve sustained high yields, even on the most fertile soils. If any crops, whether cash or staple, are taken without renewal of nutrients by fertilizing, then yields can be expected to fall rapidly.

Vegetation

Under the continuously hot, humid climate of the Solomons the vegetation is a predominantly dense tropical rain forest that varies locally from place to place (Whitmore, 1966). On the Weather Coast such variations are induced by high altitudes, abnormal edapnic features (pedological and hydrological properties), and by human interference.

The forest types of Guadalcanal are mapped in a report on land resources (Hansell and Wall, 1974; Figs. 5.12-5.13); both the original map and the Weather Coast abstraction depict essentially physiognomic characteristics identified primarily by air

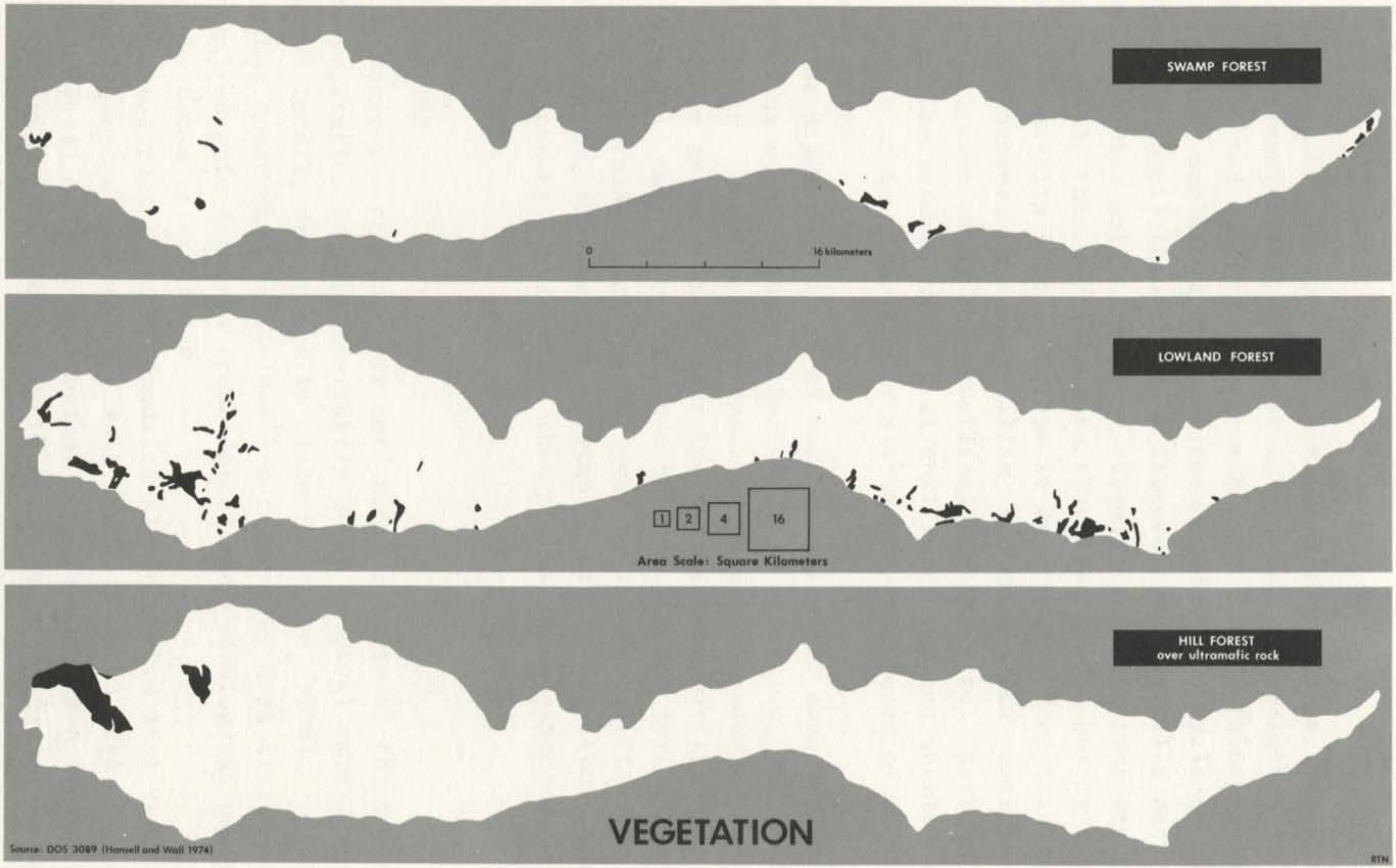

SWAMP FOREST
0
16 kilometers
LOWLAND FOREST
1
2
4
16
Area Scale: Square Kilometers
HILL FOREST
over ultramafic rock
VEGETATION
Source: DOS 3089 (Hansell and Wall 1974)
RTN

Figure 5.12

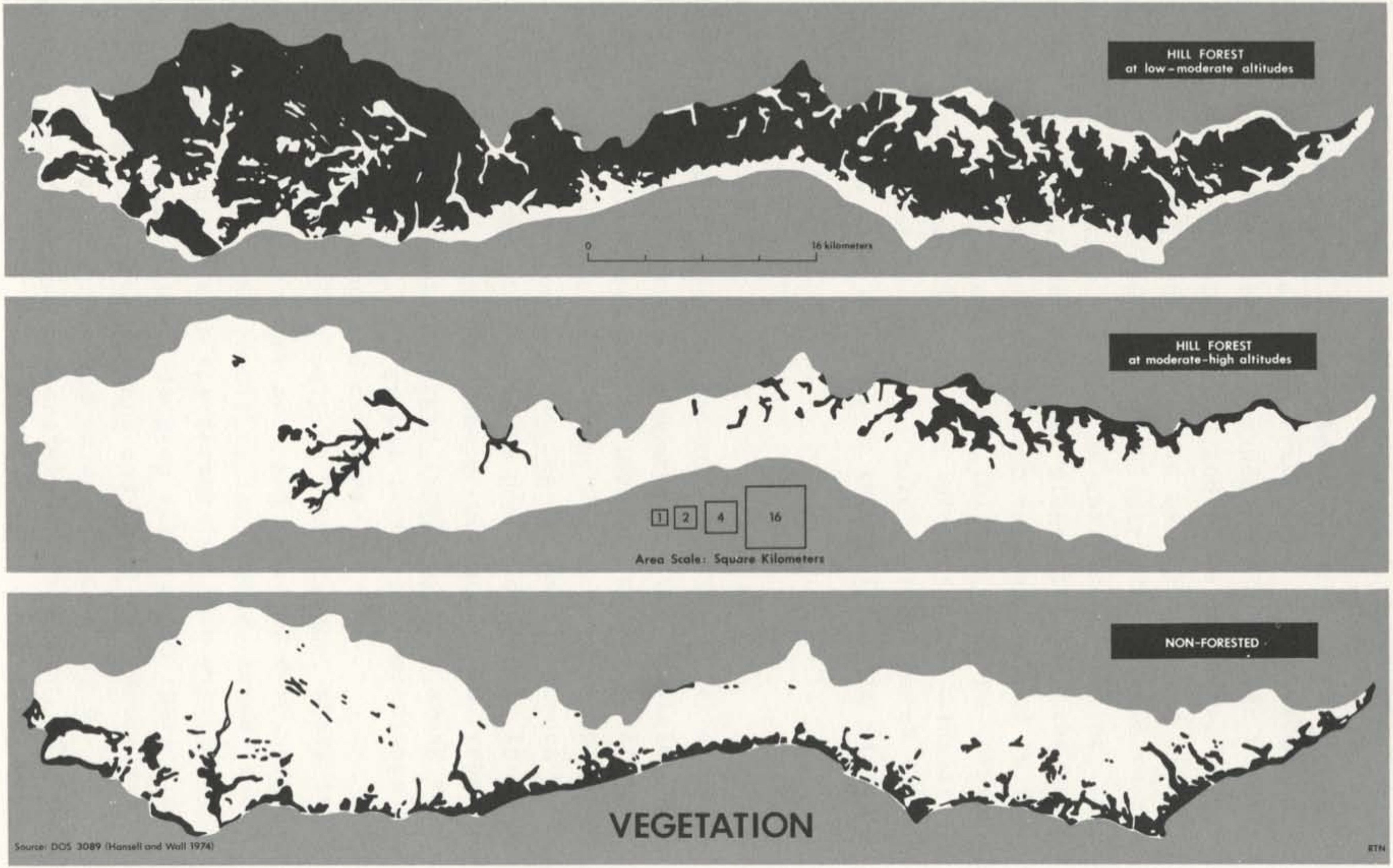

HILL FOREST
at low–moderate altitudes
0
16 kilometers
HILL FOREST
at moderate-high altitudes
1
2
4
16
Area Scale: Square Kilometers
NON-FORESTED
VEGETATION
Source: DOS 3089 (Hansell and Wall 1974)
RTN

Figure 5.13

photograph interpretation and supplemented by a check of species composition observed during field traverses. The photography used for identification of forest types on the Weather Coast was at a scale of 1:60 000-1:70 000 and flown in 1962. Wherever possible, later photography at a scale of 1:10 000 and flown in 1966 was used; this covers the coastal strip from Marau to the Koloula River (Fig. 5.14). Canopy height, size, spacing, tonal and textural qualities are the chief diagnostic features recognised by stereoscopic air photograph examination and in the field, identification of species was initially in the vernacular by skilled tree-namers: Translation into botanical classification was made by reference to Whitmore's (1966) check list. No attempt has been made to classify vegetation using statistical analysis.

Swamp Forest

Small patches of saline swamp forest (Fig. 5.12) occur at Marau and near Avuavu but are unimportant. The remaining areas occur where freshwater drainage is impeded, particularly the coastal belt and the Tina Basin (Fig. 2.1). Sago swamp forest is dominated by Metroxylon salomonense and mainly occurs west of Lauvi Lagoon, where the ground is poorly drained. In such forest the sago palms form the canopy, but scattered trees such as Eugenia tierneyana and Inocarpus fagiferus grow among and emerge above that canopy. At ground level, sago seedlings predominate with ferns, herbs and climbers.

Herbaceous swamp occurs only at Lauvi Lagoon, where it fringes part of the open water area and overlies deep, organic muds. Here the vegetation comprises low, dense, broad-leaved Hanguana malayana along with the scrambling fern Stenochlaena sp. and isolated sago palms. In deep water areas there are semi-floating species like Achrostichum and Marsilea. Associated swamp grassland fringing the lagoon consists mainly of low, dense Phragmites karka canegrass and scattered low shrubs. The same type of vegetation also is found in the lower Lamuloghi (Marasa) River area.

On the Weather Coast, the most common swamp-forest vegetation contains a wide variety of species and therefore is termed Mixed Swamp Forest. Trees vary in height from 25-35 meters, their canopy is irregular, and large-crowned emergents are present including Terminalia brassii, Eugenia tierneyana and Inocarpus fagiferus. In gaps between the large trees there are thickets of bamboo, Hibiscus tiliaceus and pandanus of various kinds. Little or no vegetation cover occurs at ground level.

Lowland Forest

This vegetation is confined to valleys and to alluvial land along the coastal belt (Fig. 5.12). On well-drained, terraced landscapes not subject to frequent flooding and on the coalesced fans there occurs a tall forest with large crowns that form a two-tiered, unbroken but irregular canopy. Common canopy-forming species in this forest are Vitex cofassus, Pometia pinnata, Ficus spp.; other trees such as Artocarpus altilis and Canarium spp. indicate some degree of past disturbance by man. The undergrowth contains mixed shrubs, ginger and palms, and at floor level are seedlings and the ground fern Selaginella sp. Old regrowth, in which medium-height secondary regrowth is mixed with tall trees, is common in the Tina Valley and westwards.

In the river flood plains, where severe flooding often occurs, a colonizing vegetation is found on the more stable areas. This is dominated by thickets of Casuarina equisetifolia around Avuavu, with Albizia falcata and Prosopis insularis particularly common elsewhere. On the less stable areas there are almost bare patches of ground with scattered grasses, herbs and low bushes, including Melastoma malabathricum and Macaranga spp.

Hill Forests

Lower mountain slopes in the eastern and western extremities of the Weather Coast (Fig. 5.13) contain medium-height to tall, medium-crowned hill forest with a generally regular canopy. This hill forest reaches 25-35 meters in height and the canopy-forming species include Vitex cofassus, Pometia pinnata, Dillenia sp. and Calophyllum kajewski. Smaller trees form an understorey layer beneath the canopy and at lower levels are palms such as Areca macrocalyx, Licuala lauterbachii and Rhopaloblaste elegans. Tree and ground ferns are also characteristic, with gingers and pandan species present in many areas. Where the canopy is broken or close to streams, wild bananas and Heliconia spp. often dominate the shrub and herb layers.

The most widespread hill forest throughout the Weather Coast is a mid-height, fine-crowned forest that has an irregular canopy on steep slopes, and occurs throughout the high mountainous watershed (Fig. 5.13). The canopy is from 15-25 meters high, with scattered taller crowns, and the impression from the air is of mainly small-crowned species. There is much slope instability with recurrent small and large earth slides so that light-demanding species such as Albizia sp., Kleinhovia hospita, Hibiscus tiliaceus, and Myristica spp., occur frequently. Of the larger trees in this forest, Eugenia and Evodia spp. tend to replace Vitex cofassus and Pometia pinnata, while small trees like Aporosa papuana, Gynotroches axillaries and Mastixia kaniensis uncommon in hill forests at lower altitudes, are found regularly. Palms and tree ferns, particularly Cyathea spp., comprise most of the shrub layer with the climbing pandans Freycinetia spp. and non-climbing pandans and ferns forming the herb layer.

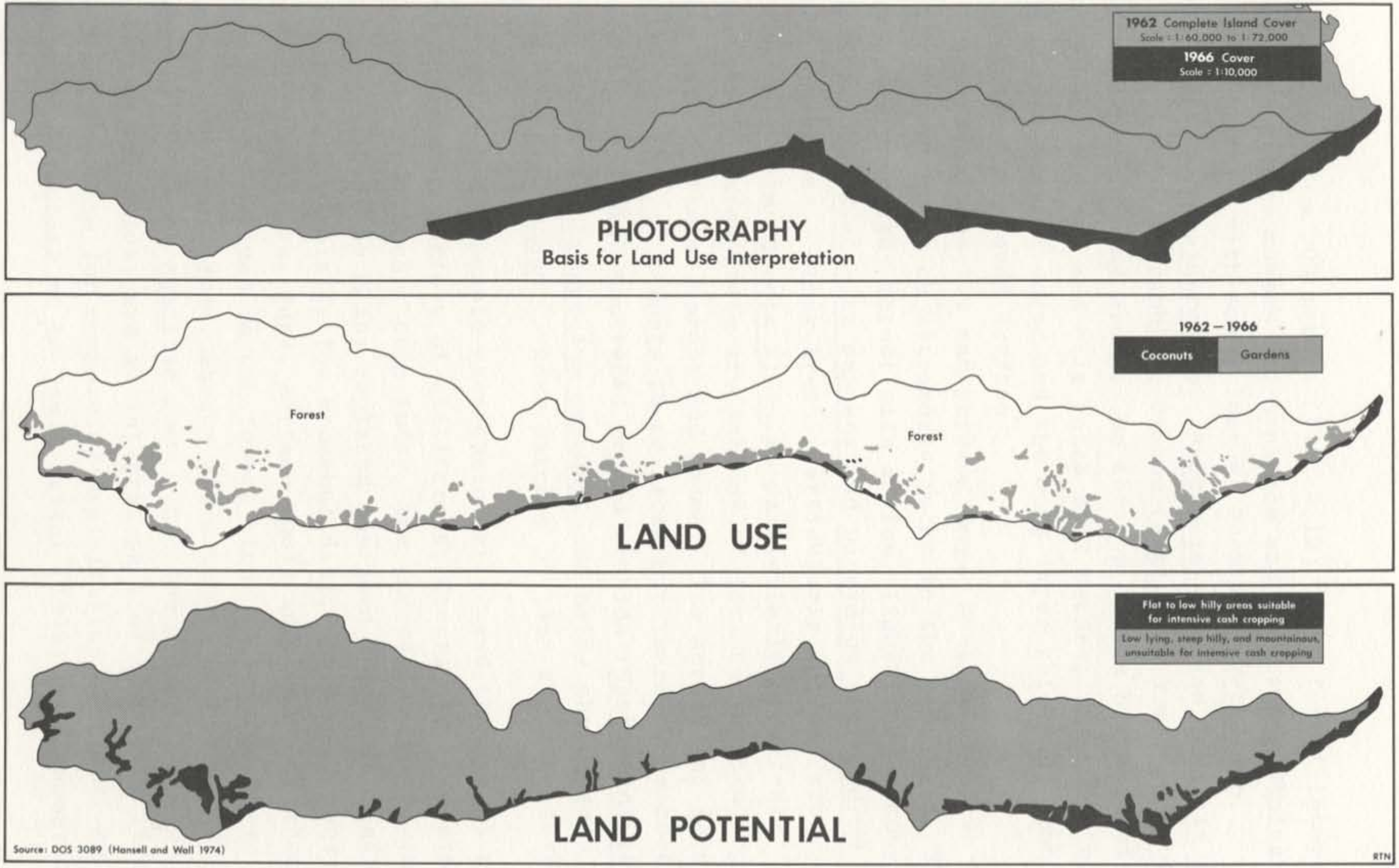
On exposed summits and ridges there occurs a low, mossy forest rarely exceeding 20 meters in height which has a regular canopy of small-crowned trees. East of the Tina River this variant of hill forest is found as low as 200 meters above sea level but elsewhere it is rarely below 800 meters (Fig. 5.12). The forest interior is draped with ferns, mosses and hepatics and the canopy dominated mainly by species with small leaves, such as _Eugenia_ spp., _Mearnsia_ sp., _Metrosideros_ sp., _Rhodamnia_ sp., and _Garcinia_ sp. (Whitmore, 1969). Scrambling bamboo (_Nastus_ sp.) may occur in large thickets in some areas. On the top of the highest peaks, trees become stunted and only reach 6-12 meters; there the canopy forms only a partial cover and the moss layer thickens, completely obliterating the ground surface.

In terms of species and physiognomy, most distinctive variant of hill forest grows on ultramafic rocks in the west (Fig. 5.12). It is a medium-height forest with a fine, light-toned canopy that is dominated by _Casuarina papuana_ and _Dacrydium xanthandrum_ at higher elevations. Other trees, particularly _Eugenia_ spp., occur and the tall palm _Gulubia niniu_ is particularly prevalent. Within the forested areas are patches of low, heath-like vegetation with scattered shrubs and palms. The scrambling fern _Gleichenia linearis_ carpets these areas but there are almost bare areas in places with scattered ground orchids (_Spathoglottis_ sp.), the stagmoss fern _Lycopodium cernuum_, and hardy shrubs such as _Decaspermum fruticosum_. These patches of land are also infrequently fired.

Weather Coast people have customarily used the forest products for a wide variety of utilitarian, decorative, medicinal and economic purposes. Even today, the increasing use of imported items has, by no means replaced the need for traditional forest products, especially for housebuilding, canoe construction, carrying receptacles, fuel, certain tools and food. To those who have worked and played in the forest since childhood, there is an endless variety of trees, shrubs and grasses, almost all of which appear to have some specific use. Thus the forests, although of low commercial value, are an integral part of community life.

The prospects for commercial exploitation of timber on the Weather Coast appear to be low. Walker (1948) made enumerations

Figure 5.14


1962 Complete Island Cover
Scale : 1:60,000 to 1:72,000
1966 Cover
Scale : 1:10,000
PHOTOGRAPHY
Basis for Land Use Interpretation
1962 – 1966
Coconuts
Gardens
Forest
Forest
LAND USE
Flat to low hilly areas suitable for intensive cash cropping
Low lying, steep hilly, and mountainous, unsuitable for intensive cash cropping
LAND POTENTIAL
Source: DOS 3089 (Hansell and Wall 1974)
RTN

in the extreme west at Kombau and immediately to the north at Beaufort Bay. Apart from dense stands of Casuarina papuana on the ultramafic areas, he found 525 hectares of productive forest with an estimated 33,560 cubic meters of timber at Kombau. This latter was dominated by Pometia pinnata and Calophyllum spp., with some Vitex cofassus and Intsia bijuga, but occurred in very steep and broken terrain. Walker's comments about the Kombau forest are probably true of the Weather Coast in general: namely that the better forest is restricted to lower elevations; if good quality forest occurs it is patchy; and rugged terrain would make extraction difficult. As far as is known, the prospect of afforestation with commercial species has never been considered.

Vegetation on the Weather Coast plays a crucial part in soil fertility and soil protection. Under a ubiquitous system of shifting cultivation, vegetation is essential in reinvigorating the soil after cropping by gradually drawing plant nutrients from the subsoil and eventually, through leaf-fall, storing them in easily available form in the humus-rich topsoil. With continual cropping and without natural fallow, Weather Coast soils would be exhausted rapidly. The presence of permanent vegetation on the steeply sloping land that dominates the area also helps to prevent surface wash and other more serious erosion. Well-established, ramifying root networks hold and bind the soil, and surface roots and trunks physically check surface wash.

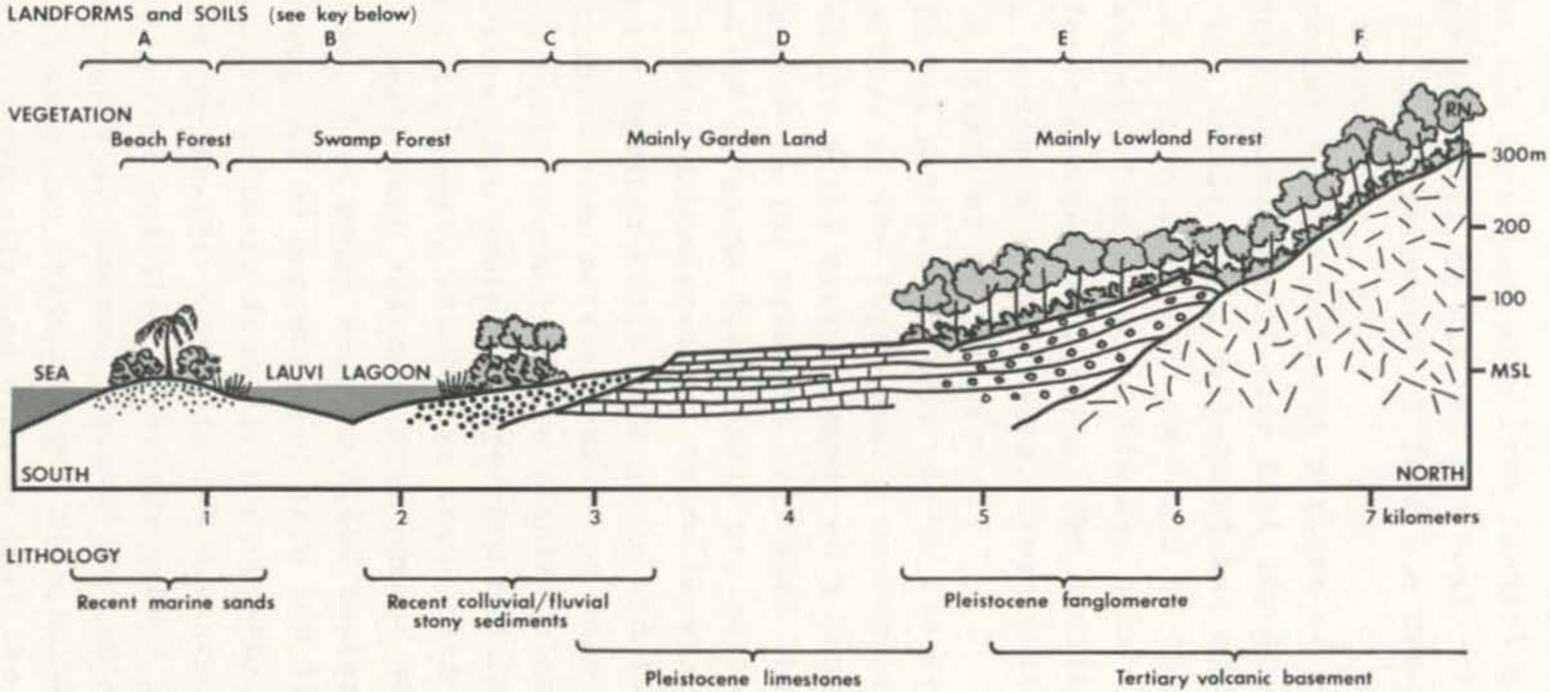
Land Use

The summary map of Weather Coast land use is derived from air photograph interpretation (Hansell and Wall, 1974), based upon 1962 photographs taken at the scale of 1:60-72,000 and modified and updated with 1966 photography at 1:10,000 scale for the coastal areas between Marau and the Koloula (Fig. 5.15). Identification of some categories is difficult even at the largest photo scale, particularly the differentiation between regrowth of varied ages due to cultivation and that resulting from landslips. The reduction in scale of photo detail to fit the map scale of about 1:700,000 has meant the slight enlargement of land use categories at the expense of forest areas.

In general, the present-day pattern of land use reflects a predominantly coastal population that lives either within 500 meters of the sea or along valleys at and close to sea level. Virtually all cultivated land is found on the coastal strip or the foot slopes of adjacent mountains, near the coast or along side the lower reaches of rivers. The implication is that little old forest exists in these coastal areas that is not part of the bush-fallow system of cultivation.

The formal pattern of land use on the Weather Coast is simple and utilization of the land equally uncomplicated. It is some sixty years since the establishment on a commercial basis of coconut plantations in the Solomons and, with the exception of one at Marau, most of those on Guadalcanal are on the north coast.
In spite of this demonstration, there is still little copra production from the Weather Coast as a whole and the bulk of it derives from the coastal area between Marau and Cape Henslow (Fig. 2.1). Most of the small coconut groves planted along the coast, of which there are about 800 hectares, are used mainly for domestic food supply, which probably absorbs at least half the total production. If, over a year, each Weatner Coast person were to consume a coconut each day, this would require 4,100 hectares in coconuts, allowing an average of 30 coconuts per tree and 215 trees per hectare. A conservative estimate from air photography, of the area under coconuts on the Weather Coast is 800 hectares, consequently the coconut crop from existing plantings cannot be considered a great potential source of income. Attempts at establishing other cash crops, such as cacao, have not met with notable success. A study of Figure 5.15 demonstrates clearly that the interrelationships among the various elements of the natural environment strongly influence the land use patterns which have emerged and do not allow

CROSS-SECTION THROUGH LAUVI POINT



A Beaches with deep pale sands (Tropopsamments)
B Swamps fringing lagoon with deep peats and mucks (Tropohemists, Tropaquents)
C Fans with dark stony clays and loams (Eutropepts)
D Terraces with limestone outcrops overlain with red clays (Haplorthox)
E Dissected terraces/foothills with brown loams and clays (Dystropepts)
F Volcanic ridges with brown loams and clays (Dystropepts, Humitropepts)

Source: Field observations (Hansell and Wall 1967-68)

Figure 5.15

for dramatic variation from the existing situation. Intensification of present uses would seem to be more feasible than any radical changes.

In general, the agricultural economy centers on a subsistence crop system with relatively little flow or interchange of produce either within the system or with the world outside. Subsistence cultivation is of the low intensity, swidden system (Brookfield with Hart, 1971), and all land that is not cliffed, rocky, flooded, exposed by recent landslips or above 1,000 meters is regarded as potential garden land for sweet potato and taro cultivation. A comparison of the land use and land potential maps (Fig. 5.14) suggests that most of the land identified as suitable for intensive cash cropping is already occupied by food gardens, with some coconuts in a narrow fringe along the shore. The implication may be that any concerted effort to expand the area under cash crops could quite rapidly result in gardens being forced into the more marginal areas.

In several areas, there appears to be some recognition by farmers of the need for erosion control. Simple erosion barriers in potato gardens on steep stony slopes consist of logs and branches placed across the slope and supported by tree stumps. These are spaced 1-3 meters apart up the slope and are effective in checking surface wash for the duration of the cropping cycle. By the end of this period, embryonic terraces of soils and stones have formed by accumulation upslope of the barriers. These can be identified for a few years after their construction but with the rotting of the logs they rapidly disintegrate. Elsewhere, the presence of logs or branches and stones in patterns across a garden are more likely to signify plot subdivision on the basis of ownership or by the number of mounds per plot (see chapter 6).

Within the present cultivation system, it us unusual for large areas of hillside to be exposed at any one time, and it is unlikely that this form of agriculture does lasting harm to the soil. It has been considered beneficial in the humid tropics by some authorities

(Wright, 1960) for some soil movement to occur so that subsoil rocks are exposed to weathering and more plant nutrients are released as they disintegrate. These small additions from rock weathering are not sufficient to replace the nutrients lost by combined leaching and cropping, although they are sufficient to allow plant food to accumulate slowly in the organic topsoil under vegetation with a closed canopy. Weather Coast hill soils are not well-endowed with nutrients beneath the topsoil so that any efforts to conserve the humus is worthwhile in terms of crop yield, especially in a system where fertilizer application is not considered.

It is widely agreed (Nye and Greenland, 1960; Phillips, 1964, Schmidt, 1973) that shifting cultivation or the bush-fallow system of cultivation is essentially in ecological balance and is not harmful to the land if there is an adequately long period of fallow. The length of fallow period is dependent upon several factors like length of the previous cropping cycle, intensity of cultivation, types of crop grown, inherent soil fertility, and degree of soil erosion. Consequently no specific time limit can be applied to the entire Weather Coast, but in general 5-20 years would appear to be adequate and in some areas the people claimed that good crops of taro could be obtained after 4-5 years fallow. In selecting a site for clearing, the cultivator judges its suitability on the basis of existing vegetation rather than soil characteristics or length of fallow and air photo inspection revealed few signs of overintensive use of land, except near Biti where vegetation species typical of degraded land occur. As the population of the coastal strip increases in density, however, the likelihood of shorter fallows will increase, a process that will increase competition for the coastal fans and river terraces, upon which in some areas increased plantings of coconuts has recently occurred.

Chapter 6

AGRICULTURE AND ECONOMIC RESOURCES

Part A: Subsistence Agriculture

Subsistence agricultural practices were studied at four Weather Coast sites. Hatare, in the Marau Sound area, and Sughu, situated at Wanderer Bay, are both coastal areas while Ghauvalisi and Aona are inland villages. Each site has different physical and man-made features which have affected the activities of the people, and taken together they reflect the diversity and range of activity along the Weather Coast. Table 6.1 presents the average household size at each site.

Table 6.1

AVERAGE HOUSEHOLD SIZE AT FOUR RESEARCH SITES

	Number of Households	Adults	Children (less than 15 yrs)	Total
Hatare				
Total a/	33	109	127	236
Average		3.3	3.8	7.1
Total b/	5	16	13	29
Average		3.2	2.6	5.8
Aona				
Total	5	12	12	24
Average		2.4	2.4	4.8
Hauvalisi				
Total	7	21	19	40
Average		3	2.7	5.7
Sughu				
Total	15	38	25	63
Average		2.5	1.7	4.2

a/ Agriculture Household Survey Schedule complete for this population.

b/ All three research schedules complete for this population (Agricultural Household Survey, Household Survey: Daily Schedule; and Garden Schedule).

Source: Field notes.

* By Eric N. Witt, assisted by Linley Chapman, Robert Freeman, Elizabeth Kaminaka and David McLure.

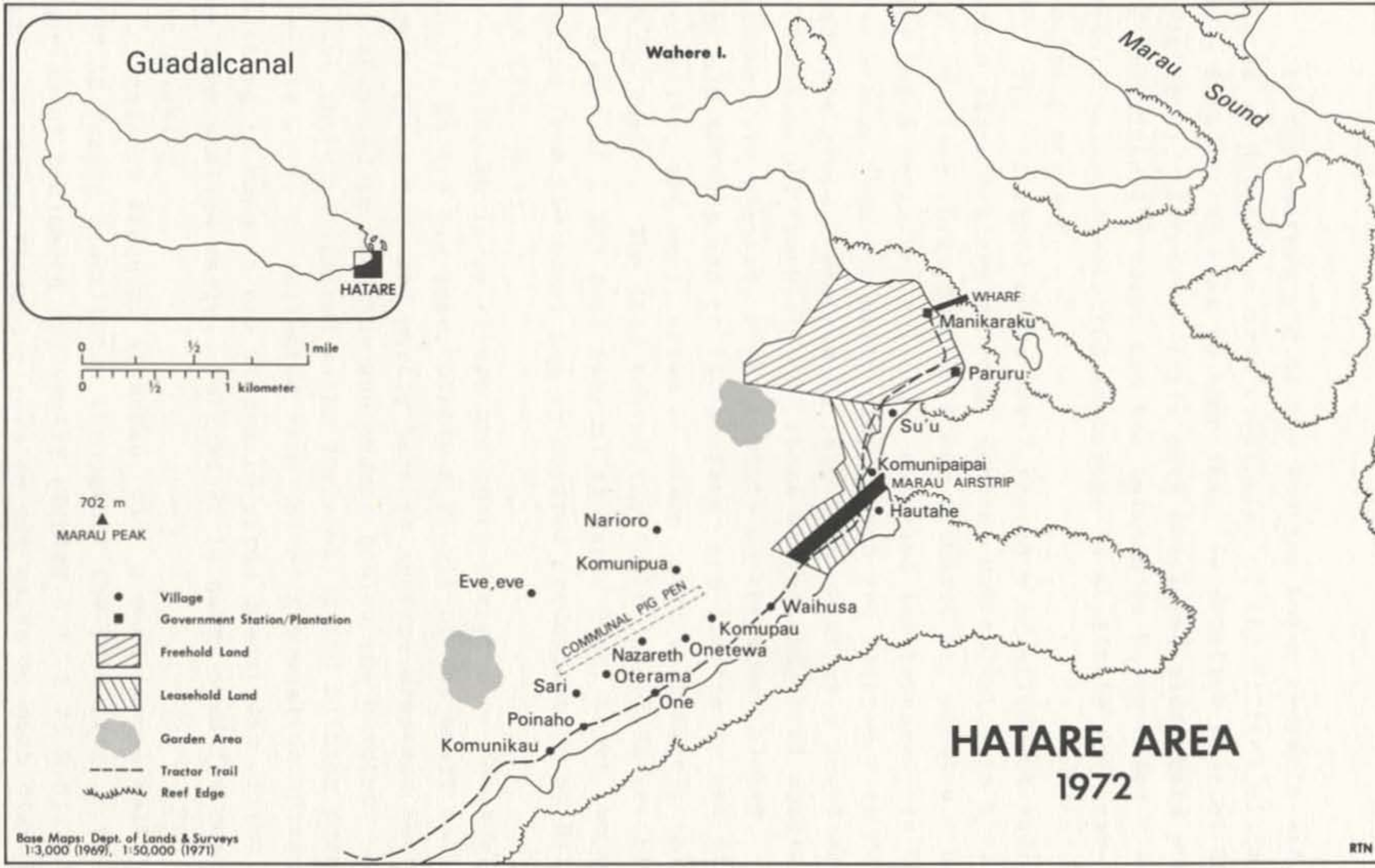
At the eastern end of the Weather Coast research was conducted in Hatare, an area consisting of the fifteen villages from Su'u in the east to Komunikau, three miles west of Su'u (Fig. 6.1). Extensive reefs have developed along this portion of Guadalcanal's coast and the islands in Marau Sound. As a result, a well-protected anchorage is available for year-round shipping service.

The off-shore reefs have created a coastline of narrow white sandy beaches of coral debris, behind which is a line of low older coral beaches where coconuts are planted. Backing the beach soils are colluvial fans and low terraces, in no place more than 1.2 miles wide, which are planted with coconuts and root crops. Protruding into this relatively level area are dissected foothills, on whose slopes and level summits gardens are planted, with coconuts on the lower slopes. Between the old beaches and colluvial fans, and limited by the dissected hills, are small areas of swamp lands with mainly tall Mixed Swamp Forest. The land behind the foothills of Hatare rises to a height of 2,303 feet (702 m) at Marau Peak, about two miles inland from the coast and is covered predominantly by Hill Forest (Fig. 6.1).

Although large rivers are characteristic of the Weather Coast, Hatare has none, partly a result of the small catchment areas (Fig. 5.2) and partly because surface drainage tends to be absorbed in the fans and swamps behind the beaches. At the coast there is limited water for cooking and bathing purposes. Potable water is collected from one of two shallow springs and bathing is done in one stream 10 yards downstream of the springs or from shallow wells. Well water is never used for cooking or drinking.

Rain is frequent at Marau, with a mean annual rainfall of 182.96 inches distributed throughout the year (Fig. 5.6) and no period of prolonged dry spells (Tables 5.1, 5.7, 5.8). Rain and associated flooded rivers do not cause as much disruption

Figure 6.1


Guadalcanal
HATARE
Wahere I.
Marau Sound
0
½
1 mile
0
½
1 kilometer
702 m
MARAU PEAK
WHARF
Manikaraku
Paruru
Su'u
Komunipaipai
MARAU AIRSTRIP
Hautahe
Narioro
Komunipua
Eve,eve
COMMUNAL PIG PEN
Waihusa
Komupau
Nazareth
Onetewa
Oterama
Sari
One
Poinaho
Komunikau
Village
Government Station/Plantation
Freehold Land
Leasehold Land
Garden Area
Tractor Trail
Reef Edge
HATARE AREA
1972
Base Maps: Dept. of Lands & Surveys
1:3,000 (1969), 1:50,000 (1971)
RTN

here as elsewhere on the Weather Coast. The average number of raindays per month ranges from 22 in July to 17 in November (Table 5.5). The Hatare area appears to be at the edge of an area sheltered from hurricanes, although there was one in July 1972 which passed over Marau Sound, destroying houses and coconut palms, and denuding trees of their leaves.

Mid-way along the Weather Coast is the research site of Aona situated two km into the deep and narrow Koloula Valley (Fig. 6.7) within the Koloula-Kuma Triangle (Fig. 5.3). At the mouth of the valley, the coastal area is composed of gravel and boulders, and shelves steeply into deep water. There is no protected anchorage for ships although government and trading ships do stop at Kuma or Inakona (Fig. 2.1) using dinghies for transport between ship and shore. During the period of southeasterly winds from March through November, wind and sea patterns severely restrict shipping service.

The Koloula river valley varies in width from 100-600m with water flowing in channels less than 25m wide. The valley floor consists of bare gravel and is subject to flash flooding which can cover the entire valley floor with water several meters deep, and may do so several times a year.

Chikora, located near the head of the valley, is surely among the wettest places in the world, as noted in Chapter 5.

Rising above the river floodplain are colluvial fans and terraces which are cultivable, although the gardens planted there are subject to flash flooding, particularly in the lower reaches of the valley. High ridges and mountains are the dominant landform of this area and rise to 1,000m. Aona is located on the footslopes at an altitude of 100m (Fig. 5.3). The lower slopes are commonly the steepest, due to incision by rivers, streams, and gullies, and with the middle slopes are both forested and planted to gardens. No cash cropping is done in the area. Water supplies for cooking and bathing are available in nearby streams and the fast-flowing water ensures adequate purity.

The second inland site was Ghauvalisi, consisting of seven households, located four miles up the Tina River valley (Fig. 1.4) in the Tina Basin (Fig. 5.3). At the valley mouth ridges drop steeply into the sea and the narrow beach consists of gravel and boulders. Landings are made in dinghies at Marasa, subject to wind and sea conditions, which are most favorable during the calm spells of the short northwesterly season.

The combined lower course of the Marasa-Tina rivers is characterized by an extensive fluvial plain which is only infrequently subject to serious flooding. The Tina flood plain, within the fluvial plain, is about 300-1600 feet wide and bordered by almost level low terraces and plains, which reach 1.8 miles in width and are about 10 square miles in area. These have a slope of from 0-2° and some of the best soils on the Weather Coast. The plain is covered with Lowland Forest with some clearing for coconuts and gardens. Ghauvalisi is situated on the northern edge of the plain. Rising above the lower Tina basin and directly behind Ghauvalisi are deeply dissected angular ridges which range in height up to 1600 feet and have steep, forested slopes subject to landslides.

Drinking and bathing water is always available from the Tina river. Because of its location midway between Chikora, and Tangarare, it is likely that annual rainfall in Ghauvalisi approaches 200 inches (Fig. 5.6). From the information in Chapter 5, it may be inferred that Ghauvalisi receives rain on a consistent basis throughout the year with few dry spells, thus assuring adequate water for personal use as well as for gardens.

The second coastal site was located at Sughu, Wanderer Bay, on southwest Guadalcanal (Fig. 1.4). The bay provides a protected anchorage for year-round shipping service, with a little reef development along the western side of the bay.

There is a narrow sandy strip along the shore, on which coconuts are planted. Low, riverine terraces and small plains occur from the coast inland (Fig. 5.3) to a depth ranging from 1600 feet to 1.8 miles, and flooding is not severe. These terraces and plains contain Lowland Forest (Fig. 5.13) but are largely planted to coconuts and gardens. Surrounding the flat coastal area along Wanderer Bay are moderately high and high ridges with heights ranging up to 2000 feet (Fig. 5.4). The slopes of the hills range from moderate to steep (10-35°) and coconuts are planted at the lower levels of the slopes with gardens planted at both lower and higher levels.

As in Ghauvalisi, river water is available at Sughu for both drinking and bathing purposes. The nearest rainfall collection site is at Tangarare (mean annual rainfall 125.58 inches; Fig. 5.6) which is located about six miles northwest of Sughu. Although rainfall is consistent throughout the year the Tangarare site has the lowest mean annual rainfall of the three rainfall collection areas. There are prolonged dry periods of 10 days or more, but their infrequency minimizes the danger to water supplies.

Gardens - Supply

The basic agricultural acitivity on the Weather Coast is subsistence gardening with the same basic crops grown throughout the four sites, using similar methods of planting and harvesting. A variety of soil types and topography result in differences in yields and per capita areas under cultivation.

Every household cultivates several gardens for subsistence needs, in different locations around the village. Hatare/Poinaho, Ghauvalisi and Sughu households all maintain about three separate plots, as shown in Table 6.2. However it is also shown that the average for Aona is 7.4 plots per household, and the average size of gardens is also larger. This probably reflects an adjustment to the topography of the Koloula valley, the frequency of flash flooding and inherent

Table 6.2

GARDENS: NUMBER, ACREAGE, AND AVERAGE DISTANCE FROM HOUSEHOLD

	Hatare/ Poinaho	Aona	Ghauvalisi	Sughu	Manakwai	Verahue	Mbilua	Taboko	Tadhimboko	BSIP Sample	Inonda[a]	Sivepe	Modopa
Number of households	5	5	7	15	20	21	28	25		505			10
Population	29	24	40	63	114	118	123	192	1101	2404	45	50	45
Total number of gardens	13	37	19	49	42								
Average number of gardens per household	2.6	7.4	2.7	3.3	2.1								
Total garden acreage	3.619	12.901	2.923	14.290	11.52	41.36	45.1	39.3	323.69	973.6	12.00	12.67	6.19
Average garden acreage per household	.724	2.580	.418	.953	.571	2.0	1.7	1.5		1.9			
Per capita garden area acres	.125	.538	.073	.227	.100	.350	.370	.200	.290	.400	.270	.250	.140
square yards	605	2604	353	1099	484	1694	1791	968	1404	1936	1307	1210	678
Average acreage per garden	.278	.349	.154	.292									
Average distance from household to garden (minutes)	20	26	25	18									
Data Sources	Field notes				Bathgate, Frazer and McKinnon, 1973:15				Lasaga, 1972:146	Allan, 1957:202	Crocombe and Hogbin, 1963:9,10,16	Rimoldi, 1966:17,19	Waddell, 1972:43

[a] Taro, kumara only.

soil fertility. The average distance of the gardens from the household is about a 20-25 minutes walk at all sites, although some Aona gardens are more than an hour's distance from the village.

Table 6.2 also shows the per capita area of garden under cultivation. Within a bush-fallow system of subsistence agriculture Barrau indicates that an average of 1,000-1,500 square yards of garden area under cultivation on a per capita basis is necessary to provide an adequate food supply (Barrau, 1958:75). This compares with an average of 353 to 2,604 square yards per capita at the four research sites. The smaller garden areas at the three sites other than Aona may result from either better soil conditions and higher yields, or different dietary requirements of the people. Garden yields and dietary requirements are discussed below.

Kumara, or sweet potato (Ipomoea batatas), is the basic food crop grown throughout the Weather Coast and was the dominant garden crop at all research sites at the time of the survey (Table 6.3). About two-thirds of all garden acreage was devoted to kumara with a range at the four sites of 59 to 77 per cent. Kumara is planted, harvested and eaten during the entire year and kumara gardens were at various levels of maturation at all research sites. From May to September, the kumara is supplemented by yams (Dioscorea alata).

In addition the gardens were also classified according to slope: flat, moderate, or steep.[1] Ghauvalisi gardens are virtually all planted on the Tina fluvial flood plain and 97 per cent of the garden acreage is classified as flat (Table 6.4).

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[1] It must be noted that these topographical classifications will not hold up to rigorous categorization as measured by degrees of slope. The goal was to describe general tendencies rather than do a detailed analysis of a physical site. This goal was determined by the non-physical training of the researchers.

TABLE 6.3

GARDEN ACREAGES, BY CROP

	Kumara								
	1st	2nd	3rd	Total	Yam	Pana	Taro	Other	Tota
Hatare/Poinaho	1.187	1.123	.160	2.470	.466	.642	.041		3.6
Per Cent	33	31	4	68	13	18 (31)[a]	1		
Aona	4.888	2.772	-	7.660	3.862		1.379		12.9
Per Cent	38	21		59	30		11		
Ghauvalisi	.989	.860	-	1.849	.621	.064	.297	.092[b]	2.9
Per Cent	34	30		64	21	2 (23)	10	3	
Sughu	3.522	6.264	1.305	11.901	2.401	.527	.271		14.2
Per Cent	24	44	9	77	17	4 (21)	2		
Source: Field Notes									
Frazer, 1973:25	Manakwai			8.175	.600		2.755		11.
	Per Cent			71	5		24		
Bathgate, 1973:80	Verahue			22.30	5.97		-		28.
	Per Cent			79	21				
	Taboko			15.92	1.70		-		17.
	Per Cent			90	10				
Lasaqa, 1972:144	Tadhimboko			212.36	53.69	19.11	1.11	4.29[c]	290.
	Per Cent			66	17	6 (23)	.34	1.32	
Crocombe and Hogbin, 1963:8	Inonda			1.6		-	10.4		12.
	Per Cent			13			87		
Rimoldi, 1966:17-19	Sivepe[d]			.07		-	.97		1/
	Per Cent			7			93		
Wadell, 1972:43	Modopa[e]			4.82	1.28				6.10
	Per Cent			79	21				

Notes: [a]Combined percentages of yam and pana are in parentheses.
[b]Cassava and corn.
[c]Cassava.
[d]Acres per household.
[e]Hectares.

Table 6.4

GARDENS: ACREAGE BY TOPOGRAPHY AND CROP

	FLAT			MODERATE SLOPE			STEEP		
	Kumara	Other	Total	Kumara	Other	Total	Kumara	Other	Total
Hatare									
Acre	1.618	.442	2.060	.558	.459	1.017	.294	.248	.542
Per cent	45	12	57	15	13	28	8	7	15
Aona									
Acre	4.986	.252	5.238	2.309	1.542	3.851	.365	3.447	3.812
Per cent	38	2	40	18	12	30	3	27	30
Ghauvalisi									
Acre	1.849	.987	2.836	--	.087	.087	--	--	--
Per cent	63	34	97		3	3			
Sughu									
Acre	1.468	--	1.468	5.357	2.614	7.971	4.266	.585	4.851
Per cent	10		10	38	18	56	30	4	34
Modopa		(0-4.9°)			(5-9.9°)			(10-14.9°)	
Hectares			.74			3.38			.37
Per cent			16.5			75.3			8.2

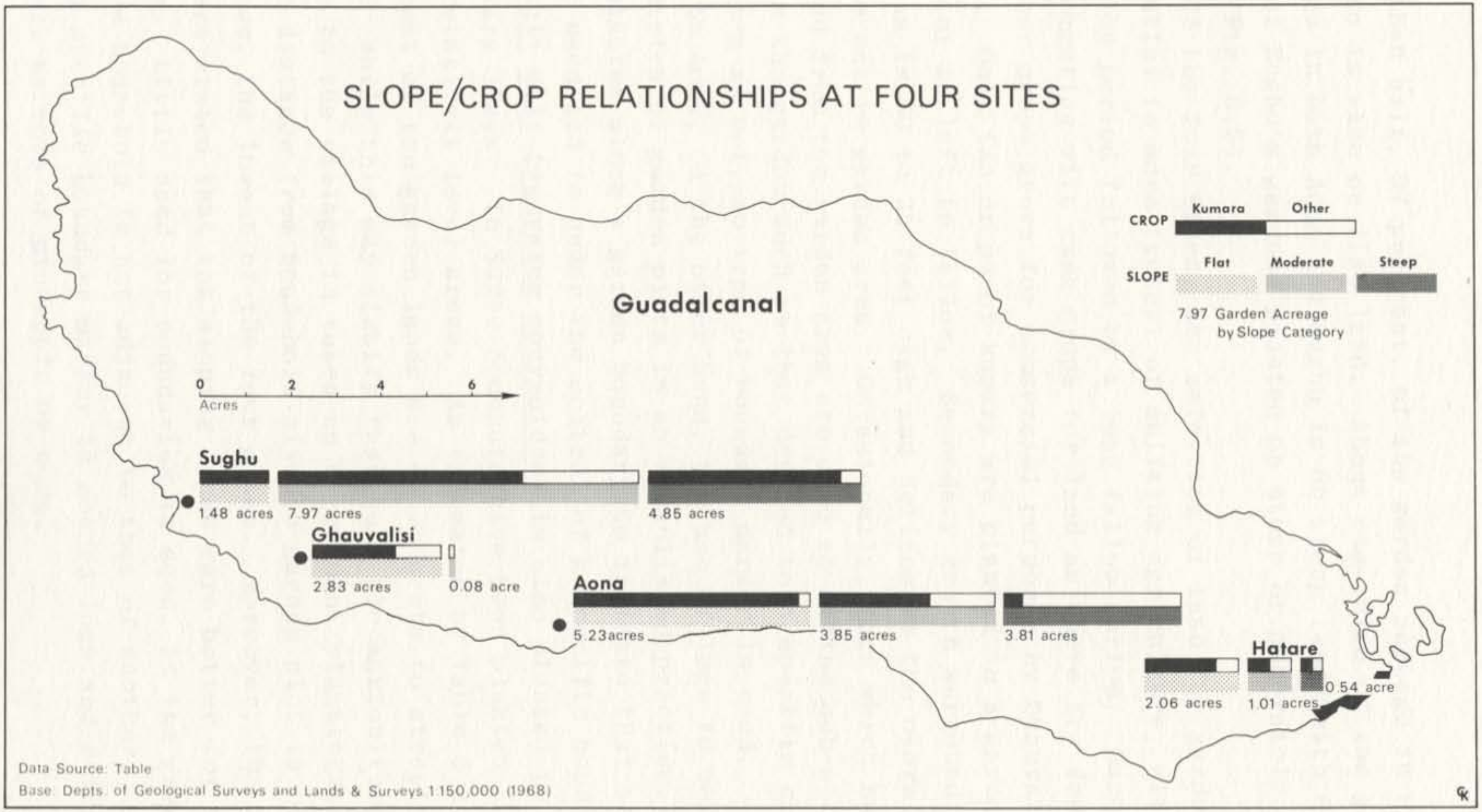
Source: Field notes; Waddell (1972:44).

More than half, 57 per cent, of the garden acreage in Hatare/ Poinaho is also on flat land. About one-third of the garden acreage in both Aona and Sughu is on steep lands with 90 per cent of Sughu's gardens planted on steep or moderately sloping land (Fig. 6.2).

Of the four sites, the selection of land for garden use in Ghauvalisi is more typical of shifting agriculture, with a cultivation period followed by a long fallow period. Gardens are not competing with cash crops for land as there are few coconuts or other crops grown for commercial purposes by Ghauvalisi households. Only two crops of kumara are planted in a garden before the plot is left to fallow. Secondary growth surrounding the gardens is 20 to 25 feet high and delineates the overall extent of the entire garden area. Occasionally, logs which have been cleared from the garden area are used to define sub-sections within the garden such as that devoted to a specific crop, but as often as not, no type of boundary marker is used.

In Aona, on the other hand, the use of logs to define the boundaries of garden plots is an established practice. Bananas are planted along a garden boundary to indicate that the land is being used and is under the control of a specific household. The kuli kuli (Ageratum conyzoides) is also planted to indicate boundary lines. In Sughu coconuts have been planted throughout the relatively level areas. As indicated by Table 6.4, 90 per cent of the garden lands are on moderate to steeply sloping land. While this may signify that suitable agricultural land close to the village is taken up by coconut plantings, the average distance from household site to garden plot is only 18 minutes, the lowest of the four sites. Moreover, the Sughu farmers stated that the sloping lands were better for garden sites. Little need for boundaries is seen, as the garden plot of one household is not adjacent to that of another. When, and if, a specific boundary marker is needed logs and sticks are used as well as rows of pineapple or corn.

Figure 6.2


SLOPE/CROP RELATIONSHIPS AT FOUR SITES
Guadalcanal
CROP
Kumara
Other
SLOPE
Flat
Moderate
Steep
7.97 Garden Acreage by Slope Category
0
2
4
6
Acres
Sughu
1.48 acres
7.97 acres
4.85 acres
Ghauvalisi
2.83 acres
0.08 acre
Aona
5.23acres
3.85 acres
3.81 acres
Hatare
2.06 acres
1.01 acres
0.54 acre
Data Source: Table
Base: Depts. of Geological Surveys and Lands & Surveys 1:150,000 (1968)

A long held practice of delineating boundaries in subsistence gardens is observed by all households in Hatare. After land is cleared and prior to planting, the garden areas are bounded with logs varying in diameter from several inches to three feet. Rows are marked off at six to seven foot intervals, again using logs. Banana, pineapple, taro, papaya, and tapioca are commonly planted to distinguish between adjacent holdings. Once a garden area is cleared, digging sticks or hoes are used to break up the soil and create a mound, on which four kumara vines are generally planted. However, on an especially hot day with little cloud cover a fifth or sixth vine may be planted to prevent or lower the risk of their drying out. The spacing of mounds at all sites is generally 3 to 3.5 feet square. Elsewhere in the Solomons average spacing has been observed up to four to five feet (West Kwara'ae, Malaita, BSIP, 1969:7). The time from planting to harvest varies from three to six months (Fig. D.1). In Ghauvalisi the growth cycle of the kumara was three months, in Sughu, five months and in Hatare/Poinaho, six months,[2] with harvesting from one garden spread over a three-month period. As the kumara are removed from the mounds, a new mound is made and planted with vine cuttings for a second crop. At both Hatare/Poinaho and Sughu, this process is repeated a third time so that three successive crops are harvested from one garden.

The other major root crops are yam, pana (*Dioscorea esculenta*), and taro (*Colocasia esculenta*). Taro is grown to a very limited extent at the two coastal sites but accounts for 10 per cent of the garden acreage at the inland sites. The Hatare/Poinaho and Sughu people did comment that they once grew taro but were now unable to produce much because of the taro fungus, *Phytophtora colocasiae.* Yams and pana require a six to nine month growth

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[2] Comparative data for Aona is not available.

period before they are mature. A variety of other plants are grown in the gardens including cassava, cabbage, pineapple, papaya, banana, corn and tobacco.

As previously noted, the research occurred when kumara was the major root crop harvested, and the yield data consequently reflects more information about kumara. When the measurement of each household's garden was accomplished, it was determined that mounds at all sites were generally spaced at 3 to 3.5 feet in a square grid pattern. With this information, the total number of kumara mounds in the gardens and the average number of mounds per household was determined (Table 6.5). The figures reflect the range of garden acreage per household, and also soil fertility at the different sites. Aona, with more garden acreage, has a greater number of kumara mounds per household, while Ghauvalisi, with the smallest garden acreage, has the fewest.

In addition, Table 6.5 gives the average yield of kumaras from a single mound, for first, second, and third successive crops, for each site except Aona. The first crop average yields at Ghauvalisi are strikingly higher than those of Sughu and Hatare/Poinaho, because of the rich soils of the Tina fluvial plain where all Ghauvalisi gardens are planted. At Ghauvalisi, a sample of fifteen mounds of both first and second crop gardens was taken. The soils there are classified as fluvial Eutropepts and exhibit deep, stone-free profiles (Fig. 5.11), with a moderate or good overall fertility and, for the Weather Coast, high agricultural potential (See Chapter 5).

Similarly, at Sughu, 15 mound samples were taken of yields in first, second, and third crop gardens. Within each 15 mound sample there is a mix of flat, moderate and steep slopes. It is not possible to disaggregate the average yields in kumara to compare the effect of soil types on differing landforms upon yield.

Table 6.5

NUMBER OF KUMARA MOUNDS BY SUCCESSIVE CROP,

AND AVERAGE YIELD PER MOUND (POUNDS)

	First		Second		Third			Overall	Average
	Mounds	lb.	Mounds	lb.	Mounds	lb.	Total Mounds	Average lb.	mounds per household
Hatare/Poinaho	5,376	3.5	4,458	2.2	772	1.8	10,606	2.5	2,121
Aona	14,092	n.a.	5,651	n.a.	0	-	19,743	n.a.	3,949
Ghauvalisi	4,606	9.4	3,298	4.2	0	-	7,904	6.8	1,129
Sughu	16,155	4.7	29,303	2.7	6,391	2.5	51,849	3.3	3,457
Verahue			1,613[a]	3.95					
Taboko	1,337[a]	6.25							

n.a. = not available.

[a]per acre.

Sources: Field notes; Bathgate (1973:101).

At five sites in Hatare/Poinaho, a sample of 25 mounds was taken from first crop gardens and 10 mound samples for both second and third crops. While four of the sites have soils classed as Eutropepts, and the fifth is Haplorthox, the data are inconclusive as to effects of soil on yield.

In Table 6.6, Kumara yield data for a range of Guadalcanal and Malaita sites are presented. The yields for the Weather Coast sites are higher than for most other sites in the Solomons for which comparable data were available.[3] Of particular note is the average yield of 16.6 tons per acre recorded for a first crop at Ghauvalisi. A yield of this magnitude is supported by the earlier data for Ghauvalisi, which indicated a small garden acreage per capita with fewer kumara plants.

An important difference between the Kwara'ae and Weather Coast subsistence data is that in the Kwara'ae research, the average spacing of kumara mounds was from four to five feet square (BSIP, 1969:7), compared with 3 to 3.5 feet square on the Weather Coast. This variance in spacing obviously can affect the yield of kumara: for example, if the spacing is three feet square, there would be 4,840 mounds per acre; if four feet square, 2,723 mounds per acre; and if five feet square, 1,742 mounds per acre. Consequently, the Weather Coast yield data was recomputed for three, four, and five feet square spacing (multiplying the mounds per acre for the appropriate spacing times the yield per mound) and the results of this exercise are shown in Table 6.7. While it is recognized that yields will differ according to spacing of mounds and general soil fertility, this mathematical exercise does support that the Ghauvalisi yields are the highest of the selected sites irrespective of spacing. However, depending on spacing, Ghauvalisi yields range from about ten times to less than three times the Kwara'ae average and are thus contextually more plausible than might appear at first glance.

In the previous section yield data from subsistence garden was presented in tons per acre which essentially indicates the productive capacity available at the selected research sites. The section that follows will present information about the types

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[3] The method for computation of kumara yield is presented in Appendix E.

Table 6.6

GARDENS: KUMARA YIELD PER ACRE AT SELECTED SITES

Site	Number of successive crops	Average yield (tons/acre)	Range of yield
Ghauvalisi	1	16.6	
	2	6.1	
Sughu	1	7.2	
	2	4.2	
	3	4.1	
Hatare/Poinaho	1	7.1	2.2 - 8.6
	2	3.9	
	3	3.9	
Aona		n.a.	
Kwara'ae	average	2.0	.2 - 5.0
North Guadalcanal	average	3.9	1.9 -14.3
Manakwai	long fallow	5.91	
	short fallow	3.58	
Verahue	2	2.85	
Taboko	1	3.73	

Data Sources: Field notes; BSIP (1969: Appendix 9); Leach (n.d.); Frazer (1973:35); Bathgate (1973:101), see also Witt (1974:73-74).

Table 6.7

GARDENS: KUMARA YIELD PER ACRE AT VARIOUS SPACINGS (TONS)

Site	Number of successive crops	Actual yield	Projected yields: 3 foot space	4 foot space	5 foot space
Weather Coast					
Ghauvalisi					
Average	1	16.6	20.3	11.4	7.3
Average	2	6.1	9.1	5.1	3.3
Sughu					
Average	1	7.2	10.2	5.7	3.7
Average	2	4.2	5.8	3.3	2.1
Average	3	4.1	5.4	3.0	1.9
Hatare/Poinaho					
Average	1	7.1	7.6	4.3	2.7
Average	2	3.9	4.8	2.7	1.7
Average	3	3.9	3.9	2.2	1.4
Kwara'ae					
Average	-	2.0	-	-	-
North Guadalcanal					
Average	-	3.9	-	-	-

Source: Field notes; BSIP, (1969:Appendix 9); Leach (n.d.).

and amounts of food harvested and their relationship to nutritional needs.

Gardens: Demand

A daily household schedule was used to gather information about the proportion of food harvested from the gardens compared with that obtained from other sources. The survey was performed daily at a time planned to coincide with the return of the people from their garden work, generally in mid to late afternoon. The same households participated in this survey as for the preceding section. During the course of the questioning, garden produce that had been harvested that day was weighed. Foods were weighed prior to their cleaning and cooking. A hand-held spring scale capable of weighing up to 50 pounds was used. Root crops, bananas, greens, coconut, and pineapple that were obtained from gardens were weighed, as well as any fish that were caught were weighed. The results of daily weighings of foodstuffs are shown in Table 6.8. Total production refers to the amount of food weighed, prior to cleaning and cooking, during the entire survey period. The average per household per day was computed by dividing the total production by the total survey days.[4]

As noted earlier kumara was the basic source of food at all sites, yet the Aona, Ghauvalisi and Sughu households harvested more than twice as much kumara as the Hatare/Poinaho households. Part of this difference results from the fact that in Sughu, Ghauvalisi and Aona kumara was fed to pigs, while in Hatare/Poinaho pigs were fed mostly coconut. In addition, the smaller amount of kumara harvested in Hatare/Poinaho is partially offset by greater production of greens (Hibiscus manihot) and

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[4] The 126 survey days in Hatare/Poinaho, for example, were based upon the total of three household surveys of thirty days duration and two household surveys of eighteen days duration (3 x 30 + 2 x 18 = 126).

Table 6.8

GARDENS: TOTAL GARDEN AND AVERAGE DAILY PRODUCTION PER HOUSEHOLD (POUNDS)

	Kumara	Yam	Taro	Cassava	Total Root Crops	Banana	Greens	Fish	Coconut	Pineapple
Hatare (5HH & 126 days)										
Total production	1285	0	0	84	1369	0	111.5	128	249	n.a.
Average per household/day	10.2			.7	10.9		.9	1.0	2.0	
Aona (5HH & 70 days)										
Total production	1520	46	85.5	n.a.	1651.5	50	44	0	71	6
Average per household/day	21.7	.7	1.2		23.6	.7	.6		1.0	.1
Ghauvalisi (7HH & 154 days)										
Total production	3870	213	75	91	4249	91	n.a.	0	n.a.	12
Average per household/day	25.1	1.4	.5	.6	27.6	.6				.1
Sughu (15HH & 210 days)										
Total production	4853	45	33	86	5017	21	122	83.2	n.a.	448
Average per household/day	23.1	.2	.2	.4	23.9	.1	.6	.4		2.1

n.a. = not available

Source: Field notes.

fish. Hatare/Poinaho and Sughu both reflect coastal locations in the availability of fish. It should be noted that Table 6.8 presents production or harvest data and does not necessarily indicate the total food consumption of the people during the survey period.

These figures provide a basis for general information about the relationship of root crops harvested, specifically kumara, to the nutritional needs of the population. Susan Holmes' (1951) recommendation of daily optimal root crop consumption (four pounds for adult men, three pounds for adult women and children 10-15 years old, two pounds for children 5-9 years old, and 1.5 pounds for children 2-4 years old) was used as a basis for calculation (Table 6.9).[5] The average daily production per capita of kumara was computed by dividing the average daily harvest of kumara by the average household size. Aona, Ghauvalisi and Sughu have a higher per capita production of kumara than Hatare/ Poinaho. This figure is compared with the per capita optimal consumption of root crops as determined by Holmes. The Aona, Ghauvalisi and Sughu per capita production figures are about twice the per capita optimal consumption figure, possibly indicating an adequate root crop supply for both human and livestock needs. Conversely the Hatare/Poinaho per capita production figure of 1.8 pounds is two-thirds that of the per capita optimal consumption figure of 2.9 pounds. However, the optimal root crop consumption figures of Holmes' study are based upon a rural Solomon Islands diet consisting only of root crops, greens, and coconut cream. No allowance is made for imported food items or fish, of which the Hatare people have available an average of

[5] Kumara will be used as the basic crop in the discussion of supply and demand of subsistence agriculture. The kumara accounts for the major portion of root crop production, by weight, at all sites: Sughu 97 per cent, Ghauvalisi 91 per cent, and Hatare/ Poinaho 94 per cent. Additionally, garden yield figures are complete for kumara. The Holmes' data regarding optimal consumption dietary patterns refer to all root crops and it is not possible to disaggregate kumara from root crops.

Table 6.9

GARDENS: COMPARISON OF HARVESTED KUMARA AND NUTRITIONAL NEEDS

	Hatare/ Poinaho	Aona[a]	Ghauvalisi	Sughu
Average number of persons per household	5.8	4.8	5.7	4.2
Average daily harvest per household of kumara (pounds)	10.2	23.6	25.1	23.1
Average per capita daily production (pounds)	1.8	4.9	4.4	5.5
Average per capita[b] optimal consumption (pounds)	2.9	2.8	2.8	2.9

[a] Root crops, including kumara

[b] Based on Susan Holmes' recommendation of optimal root crop consumption:

Adult men	4 pounds per day
Adult women	3 pounds per day
Children	
10-15 years	3 pounds per day
5-9 years	2 pounds per day
2-4 years	1.5 pounds per day

Sources: Field notes; Holmes (1951:49).

.17 pounds per capita per day. Moreover, there may be cultural differences in consumption habits. Table 6.10 compares the dietary habits of the Weather Coast sites for all root crops with six other areas, including five surveyed by Holmes. The Hatare/Poinaho figure is very close to both Manakwai and Holmes' figure for several saltwater villages on Malaita. The comparability of these figures, together with the fact that the Hatare people originally came from Malaita, may indicate cultural differences within the Solomons in food consumption practices, in addition to the location of the villages in relation to the sea and the consequent availability of fish.

Gardens - Relation of Supply and Demand

Thus far, the supply side of subsistence production on the Weather Coast has been presented, followed by the demand side--both actual production and optimal consumption. It is of interest to determine whether the supply or production of the basic food crop, kumara, is adequate to sustain both actual production and optimal consumption practices. Table 6.11 presents the projected supply and demand for the kumara crop over a three-month period.

Table 6.10

GARDENS: DAILY PER CAPITA PRODUCTION OR CONSUMPTION OF ROOT CROPS AT SELECTED SITES (POUNDS)

Village	Daily per capita production of root crops	Daily per capita consumption of root crops
Hatare/Poinaho	1.9	
Aona	4.9	
Ghauvalisi	4.8	
Sughu	5.7	
Manakwai		2.03
Saltwater villages, Malaita[a]		1.96
Hauhui, Malaita		2.5
Savo		3.4
Kia, Ysabel		2.4
Coastal Guadalcanal		3.46

[a] The last five groups of villages were all part of Susan Holmes' nutritional survey in 1951.

Source: Table 6.8; Frazer (1973:38); Holmes (1951:53-56).

Table 6.11

GARDENS: SUPPLY AND DEMAND OF KUMARA PROJECTED FOR THREE MONTHS (POUNDS)

	Hatare/Poinaho		Aona		Ghauvalisi		Sughu	
	Total	Per capita	Total	Per capita	Total	Per capita	Total	Per capita
Supply	10,002	3.83	n.a.		24,287	6.75	48,101	8.48
Demand								
Actual production	4,698	1.80	9,720	4.4	15,800	4.39	31,185	5.50
Optimal consumption	7,569	2.90	6,264	2.9	10,055	2.79	16,443	2.90

Note: The method of computation of this data is presented in Appendix E.

Source: Field notes; Holmes (1951:49).

The projected supplies exceed the projected actual production or optimal consumption for all three sites for which complete data are available. In Hatare the projected supply is close to the projected optimal consumption, yet the actual production is less than the optimal consumption. At Ghauvalisi and Sughu, projected supplies are far in excess of actual production or optimal consumption.

In all three cases the projected supply does exceed the projected demand. A survey of the literature suggests that cultural factors may exert an influence on the production of root crops (Sahlins, 1972:28; Malinowski, 1922:58; Waddel, 1972: 100; Hogbin, 1939:61). Status and social prestige, particularly as they affect an aspiring "big man", are important factors, and garden produce is also used to fulfill social responsibilities (Hogbin, 1937:73; 1964:9). Furthermore, Sahlins (1960: 407) suggests that overproduction may be a form of insurance against natural disasters. The sharing of food with visitors and strangers is customary practice as is the need to have kumara available for feasts, whether these are large-scale occasions requiring considerable planning or more simple commemorations following a death, for example.

Sughu, in particular, has had a history of natural disasters. There was a cyclone and flooding along the southeastern coast in 1967, another major cyclone in 1952 in the area from Sughu south and also a report of a major cyclone along the southwestern coast in 1936. The damage resulting from the 1952 cyclone was so severe that people from Koruga, an area of steep hills subject to landslides, relocated in Sughu and areas to the north. It is probable that they continued to build large and several gardens as a precaution against landslides. Rappaport (1968:253) commented on the Tsembaga that "sweet potato harvesting drops off quite rapidly in any garden when a younger garden begins to produce in quantity." Likewise, on the Weather Coast, it is likely that not all of the kumara in a garden will be harvested.

There is also the possibility of a pig entering a garden and uprooting a portion of it. Hogbin (1939:78) writing of Malaita, stated that, "owners of gardens are expected to protect their property, but in a tropical climate timber very soon rots, and fences are always falling to pieces, so that considerable damage may be caused by a stray pig." Weather Coast farmers do not build fences around their gardens and it has been decreed by various local administrative units that pigs be kept within the confines of a fence. However wild pigs are present in the bush areas behind the villages.

Furthermore, although no kumara were harvested during the survey period, the selling of kumara in the Honiara market is a major cash earning activity of the Sughu people. In a reconstruction of a six month period, June to November 1972, it was determined that approximately 1,000 pounds of kumara per month were sold in Honiara. The projected excess of kumara supplies over local demand confirms that the Sughu farmers have the capability.

In brief the projected supply of kumara in both Sughu and Ghauvalisi is likely to exceed the projected demand for a combination of reasons, yet this apparent excess production may not be wasteful but indicate a degree of contingency planning.

Conversely Hatare/Poinaho is the only site to register an optimal consumption that exceeds actual production which, as noted earlier, may be offset by cultural differences in consumption of root crops, and the availability of fish and purchased foods.

In Hatare/Poinaho the average expense per household per day for food is \$A.08, in Ghauvalisi \$A.02, and in Sughu \$A.01.[6]

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[6] For the same period the average income per household per day in Hatare/Poinaho was \$A.69, in Ghauvalisi \$A.13, and in Sughu \$A.07.

The major food items purchased by Hatare/Poinaho households are cabin biscuits, fish (canned and fresh), sugar, and bread.

The final point raised by Table 6.11 is the difference between optimal consumption and actual production in Ghauvalisi and Sughu. It was suggested above that excess production appears to be a characteristic of Melanesian subsistence agriculture, yet kumara was not seen rotting in piles in any of the villages. However, their farmers do raise and maintain pigs, which, in Aona, Ghauvalisi and Sughu are fed kumara daily, while in Hatare they are fed coconuts. Rappaport (1968:61) found that adult and adolescent pigs were fed 2.6 pounds of root crops per day. This figure has been used to reconstruct the relationship of projected optimal consumption of kumara for both humans and pigs, and the projected actual production of kumara (Table 6.12).

Table 6.12

GARDENS: KUMARA CONSUMPTION PATTERNS FOR PIGS AND HUMANS

	Sughu	Ghauvalisi	Aona	Hatare/Poinaho
Total pigs	53	26	n.a.	23
Average pigs per household	3.5	3.7	n.a.	4.6
Optimal consumption (pounds)				
Humans	16,443	10,055	6,264	7,569
Pigs	12,402	6,084	n.a.	n.a.
Total	28,845	16,139		
Actual production (pounds)	31,185	15,800	9,720	4,698

Source: Field notes.

It may be inferred from the close fit between projected actual production and total projected optimal consumption for humans and pigs that food supplies are adequate for the needs of both. In addition, the existence of the projected surplus of kumara and the fact that pigs are fed kumara in Sughu, Ghauvalisi and Aona indicates the importance of the pig in subsistence agriculture and Melanesian society. In the New Guinea Highlands especially, the importance of the pig is denoted by the pig cycle which Brookfield and Brown (1963:58) have defined as the upward growth of a pig population "from very few immediately after a large pig ceremony to a maximum number immediately before the climax of the next ceremony." Waddell (1972:118), in a much more recent study, suggests that the cyclical patterns of the pig population is the reason for the projected surpluses of kumara production and does not feel such surplus to be "serving as an insurance against unexpected losses--it is too substantial."[7]

Table 6.13 summarizes the pig to human ratios at the Weather Coast and other sites, including Modopa, the site of Waddell's study. Also shown where data are available, are the surplus per capita kumara production (projected yields less projected actual production), the number of additional pigs this excess production could support, and the adjusted maximum pig to human ratio that could be maintained with existing garden sizes.

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[7] Later, on the same page, Waddell (1972:118) determines how many additional pigs could be supported on the projected surplus of kumara and then suggests that this number of pigs is the optimum figure. Further in his text (215) he states that an environmental constraint on gardens is the danger of frost and flash floods. It appears that part of the projected surplus may well be an insurance against these climatic factors.

Table 6.13

PIG TO HUMAN RATIOS[a]

	Hatare	Hatare/ Poinaho	Ghauvalisi	Sughu	Modopa	Mbilua	Verahue	Taboko
Pig to human ratio (surveyed)	.47:1	.79:1	.65:1	.84:1	1.7:1	.23:1	.50:1	.23:1
Surplus daily kumara production per capita	n.a.	2.03	2.36	2.98	4.85	n.a.	n.a.	n.a.
Number of pigs supported by excess production	n.a.	22.7	36.3	72.2	n.a.	n.a.	n.a.	n.a.
Adjusted pig to human ratio	n.a.	1.6:1	1.6:1	2.0:1	3.3:1	n.a.	n.a.	n.a.

[a] Human means the total population of the area.

Sources: Field notes; Waddell (1972:117-8); McKinnon (1973:37); Bathgate (1973:182-3). It should also be noted that Waddell uses a daily consumption rate of kumara by pigs of 3.09 pounds (1.4 kg) compared with Rappaport's (1967) figure of 2.6 pounds.

For both surveyed and adjusted pig to human ratios, the New Guinea figures are about twice those for the Weather Coast sites. Since the operation of a large-scale pig cycle is a reported feature of Modopa, this suggests that fluctuations in the pig populations of the Weather Coast are nowhere near so regular nor so intense. It is probable that the environmental fragmentation of the Weather Coast, reinforced by a highly parochial social organization, and in earlier days by warfare, has led to more locally specific feasts so that the "climax" of the cycle rarely reaches the numbers of the New Guinea Highlands. Yet, conspicuously large feasts are not unknown. There was a feast at Makaruka during the research period in which 363 pigs were distributed to approximately 2,000 guests (BSIP-N 1972, 20:9-11). In April 1972 many villages at the western end accumulated more than 100 pigs for a feast of gratitude to a particularly popular volunteer worker. In Hatare area after the pig census was completed a smaller feast was held at which 30 pigs and 15 cases of canned meat were presented and redistributed. About 20 of these pigs came from Hatare households, so that the pig to human ratio was reduced below .47:1. Comparing the Hatare ratio, rather than the Hatare/Poinaho ratio, with the ratios of both Ghauvalisi and Sughu shows Hatare to have a much smaller ratio. It is highly probable that this reflects the greater excess production of kumara in Ghauvalisi and Sughu, which in turn enables the people to maintain more pigs. Whereas Hatare has less excess kumara production it also has greater access to wage incomes, and these lead in combination to the minimization of the importance of the pig in feasts and other related activities. This difference between Hatare and the other Weather Coast sites is consequently related to the much more regular infusion of cash into the local area and was manifested at the Hatare feast by the number of cases of canned meat purchased and presented.

<u>Activity Survey</u>

The previous section indicated the adequacy of the subsistence sector in providing sufficient food, particularly kumara, to the population, with supplies found to be above optimal and actual needs at the three sites for which data are available. In a general discussion of so-called primitive economies Fisk (1962:468) points out, "that there is a potential labor surplus concealed within the subsistence economy, comprising that portion of the potential supply of labor not required for production of food to the level of the demand ceiling." If an area is not supplying adequate food supplies for its population, then the first concern would be to maintain or increase production to insure adequate nutritional levels. However, if an area has a potential labor surplus, then this might be used for developmental activities such as cash cropping or possibly wage employment. Additional information is therefore required about labor and leisure time activities to determine whether in fact the Weather Coast has a marked surplus of labor.

Table 6.14 presents a summary of the survey information obtained about the daily activities of the people. In the afternoon of every survey day and at the time garden produce was weighed, the members of the selected households were also asked on what activities they spent the previous evening, that morning, and that afternoon. No attempt was made to follow an individual and clock his activities throughout the day and no one in the village had a watch. The total hours spent on each activity are listed and the percent of total time involved for each of these activities is shown for inter-village comparison. Calculations for the per cent of time are based upon a 12-hour day.

The <u>subsistence gardening</u> cateogry refers to time spent in one's own garden or assisting a friend or relative in theirs. Travel time to and from the garden is included as garden work. No attempt was made to determine if a person "worked" during the entire time spent in the garden. If a woman left for her garden

Table 6.14

ACTIVITIES: TOTAL HOURS AND PER CENT OF TIME PER CATEGORY (12-HOUR DAY)

	Hatare Hrs	Hatare %	Aona Hrs	Aona %	Ghauvalisi Hrs	Ghauvalisi %	Sughu Hrs	Sughu %
Males								
Subsistence Gardening	256	7.9	91	10.8	377	23.8	465	18.5
Food Preparation and Other Subsistence	162	5.0	48	5.7	281	17.7	449	17.8
Cash Cropping	115	3.5	--	--	--	--	--	--
Wage Employment	552	17.0	21	2.5	12	.8	28	1.1
Social	292	9.0	--	--	63	4.0	99	3.9
Travel	312	9.6	204	24.3	--	--	189	7.5
Free Time	1551	47.9	476	56.7	851	53.7	1290	51.2
Total Hours	3240	99.9	840	100.0	1584	100.0	2520	100.0
Females								
Subsistence Gardening	572	16.6	258	14.0	665	21.0	589	25.0
Food Preparation and Other Subsistence	596	17.2	264	14.3	451	14.2	610	25.9
Cash Cropping	31	.9	--	--	--	--	--	--
Wage Employment	--	--	3	.2	--	--	--	--
Social	254	7.3	--	--	216	6.8	135	5.7
Travel	712	20.6	300	16.2	--	--	--	--
Free Time	1291	37.4	1023	55.4	1836	58.0	1018	43.3
Total Hours	3456	100.0	1848	100.1	3168	100.0	2352	99.9

Labor/Leisure Percentage Breakdown

	Hatare	Aona	Ghauvalisi	Sughu
Males				
Labor	33.4	19.0	42.3	37.4
Leisure	66.5	81.0	57.7	62.6
Females				
Labor	34.7	28.5	35.2	50.9
Leisure	65.2	71.6	64.8	49.0

Note: Tables will not add up to an even number due to rounding.

Source: Field notes.

at 8:00 a.m. and returned at noon, it was considered that she had been occupied in garden work for four hours.

Food preparation and other subsistence includes all activities that were not garden oriented and for which no money was received. This is a broad classification and includes such activities as caring for children, collecting firewood, feeding pigs, preparing food, and building a house.

Cash cropping includes any work performed in conjunction with the processing of copra and trochus shell diving. The category is limited to these two activities as they were the only ones observed.

The category, wage employment, consists of any work performed locally for a money wage. Any family member employed in Honiara would not have been included in the survey.

These four categories were collectively considered to be "labor" activities. The remaining time was spent in activities classified as "leisure", which follow below.

The social category consists of any structured non-work activity such as church attendance, a village meeting, sports events, or a bazaar.

Traval includes all that made outside of the village area, which generally meant a trip to Honiara but also could have been to another village.

Free time is a residual category including those activities identified during the survey as walkabout,[8] "just talking", or not doing anything. Any unaccounted time during the twelve-hour period was also included here.

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[8] The term walkabout simply means to go out and walk about, generally with no specific purpose. This could mean a walk in the village and immediate vicinity or a journey to Honiara. It us used here to mean a short walk in the local area and not travel.

In the gardens the men normally perform the more strenuous tasks of clearing the land, laying out boundary markers, and digging the initial mounds, while the women generally plant the vines or tubers, weed the garden, harvest the produce, and carry it back to the house site. This division of labor between the sexes is not rigid and anyone will generally perform whatever tasks need to be done irrespective of sex.

The Hatare/Poinaho and Aona males devote a smaller percentage of their time to subsistence gardening than do males at Ghauvalisi and Sughu. The Hatare males however, devote a much larger percentage of their time (17.0%) to wage employment than any other surveyed and it appears that the availability of wage employment in the Hatare area has reduced the amount of time that men spend in their household gardens. On the other hand, the people in Harare/Poinaho, both males and females, devoted a larger percentage of their time to assisting in a friend's garden than was recorded for Sughu, Aona and Ghauvalisi. During the survey period, many Hatare/Poinaho households were establishing new gardens, necessitating the clearing and digging of new lands, which was undertaken on a cooperative basis.

Food preparation and other subsistence activities are fairly consistent at all sites and between sexes, with the exception of the relatively less time spent by the Hatare/Poinaho and Aona males.

Only the Hatare/Poinaho people were involved in any cash cropping activities during the survey period, namely processing coconut into copra and diving for trochus shells. Males performed both activities and females also dove for shells. The Hatare/Poinaho people are actively involved in growing coconuts as a cash crop. It may well be that more time than indicated is usually spent on cash cropping, particularly coconuts, at all sites since, at the time of the survey, copra prices were at a low of $A65 per ton having fallen from a high of $A140 in February 1971. Moreover, the Hatare people suffered a major cyclone in

July 1973 that felled some coconut palms and stripped many others of nuts, mature as well as immature.

Males spent some time on wage employment at all sites whereas only one Aona female had any wage employment. In Aona, both males and females spent a total of 24 hours in wage employment, of which eight hours were in casual labor at Chikora for the Utah Mining Company, and the remaining sixteen were assisting the Weather Coast Project researcher. In Ghauvalisi, one man was employed as a laborer on the Babanakira airstrip, that was in the final stages of completion, and in Sughu one man was paid for agricultural work. At these two sites, wage employment was a relatively minor item and accounted for no more than 28 hours (Sughu) and 12 hours (Ghauvalisi) whereas at Hatare/Poinaho wage employment was a major activity and accounted for 552 hours. Seventeen percent of the time spent by Hatare/Poinaho males was in regular, full-time wage employment. Four men held permanent jobs: a primary school teacher, an agricultural laborer for the Department of Agriculture, a worker on the Guadalcanal Weather Coast road project, and an agricultural laborer employed by a Hatare farmer.

In Ghauvalisi and Sughu, attendance at church services accounted for all activity classified as "social" but for the people of Hatare/Poinaho the range was much wider. There were bazaars, both church- and social-sponsored; soccer matches, one against a visiting team from Honiara; dancing, which included the practice of custom dances for a village feast and a dance social featuring a <u>power band</u> and <u>plaster dancing</u>.[9] Time was also spent in church attendance, awaiting the arrival of a ship, visiting the nearby health clinic, and in village meetings. What is of particular interest here is the variety of activities

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[9] The pidgin English phrase, <u>power band</u>, means a group playing electric guitars and the phrase, <u>plaster dancing</u>, means a male and female dancing together as a couple. Traditional dancing in the Solomons generally involves a group of men or a group of women dancing as a unit.

available to members in a Weather Coast community and the fact that a trip to Honiara is not always necessary to provide some diversion from the routine of daily village life.

The travel category indicates that the people of Hatare/ Poinaho and Aona were the most mobile in making journeys outside the village area. In one case a family travelled together for a court appearance in Honiara, while in another, two families went to Honiara to purchase supplies. Yet another family visited the village where the husband taught school for end-of-year festivities. Most of these travel activities were of lengthy duration, that is, one week or more, and therefore quite different from walkabout.

The final category, free time, is generally consistent throughout the research sites and accounts for about 50 per cent of all leisure activities, including time spent walkabout, talking, resting, doing nothing, or for any unaccounted time in the daily survey period of 12 hours.

The data in Table 6.14 is presented in alternate form in Table 6.15 in which the percentage of time spent on a particular activity is converted to relative time, in hours and minutes, of one 12-hour day. For example, Hatare/Poinaho males spend 7.9% of their time on subsistence gardening activities which, in an average 12-hour day, would equal 56 minutes.

As previously noted, all activity categories may be aggregated into two broad groups: labor or work-related activites (subsistence gardening, food preparation and other subsistence activities, cash cropping, wage employment) and leisure (social activities, travel, free time). Grouped in this way Hatare/ Poinaho males spent 33.4 per cent of their time at work (Table 6.14), or 28 hours per week (Table 6.14 and Table 6.15). Ghauvalisi males spent 37.4 per cent or 31 hours per week, and Sughu males spent 42.3 per cent of their time, or 35 hours per week. Aona males, however, spent only 19 per cent of their time, or 16 hours per week. Females in Hatare/Poinaho, Aona and

Table 6.15

ACTIVITIES: AVERAGE HOURS PER CATEGORY

(12-HOUR DAY)

Males	Hatare Hrs.	Hatare Min.	Aona Hrs.	Aona Min.	Ghauvalisi Hrs.	Ghauvalisi Min.	Sughu Hrs.	Sughu Min.
Subsistence Gardening		56	1,	18	2,	51	2,	13
Food Preparation and Other Subsistence		36		41	2,	7	2,	8
Cash Cropping		25		--		--		--
Wage Employment	2,	2		18		6		8
Social	1,	4		--		29		28
Travel	1,	5	2,	55		--		54
Free Time	5,	45	6,	48	6,	27	6,	9
TOTAL HOURS	11,	53	12		12		12	
Females								
Subsistence Gardening	2		1,	41	2,	31	3	
Food Preparation and Other Subsistence	2,	4	1,	43	1,	42	3,	6
Cash Cropping		6		--		--		--
Wage Employment		--		1		--		--
Social		53		--		49		41
Travel	2,	28	1,	57		--		1
Free Time	4,	29	6,	39	6,	58	5,	10
TOTAL HOURS	12		12,	1	12		11,	58

Labor/Leisure Hourly Breakdown

Males	Hatare Hrs.	Hatare Min.	Aona Hrs.	Aona Min.	Ghauvalisi Hrs.	Ghauvalisi Min.	Sughu Hrs.	Sughu Min.
Labor	3,	59	2,	17	5,	4	4,	29
Leisure	7,	54	9,	43	6,	56	7,	31
Females								
Labor	4,	10	3,	25	4,	13	6,	6
Leisure	7,	50	8,	36	7,	47	5,	52

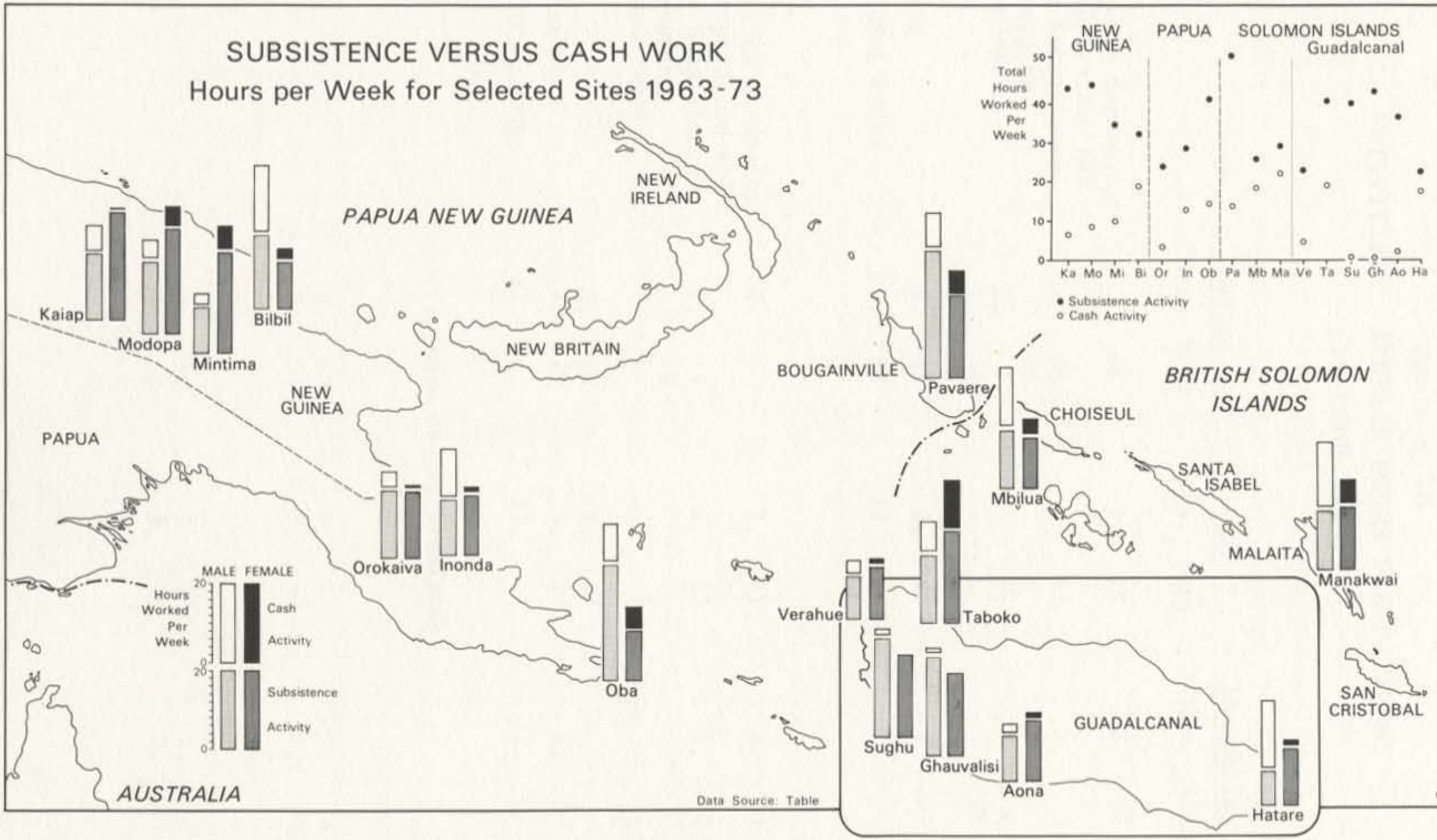
SUBSISTENCE VERSUS CASH WORK
Hours per Week for Selected Sites 1963-73
PAPUA NEW GUINEA
NEW IRELAND
NEW BRITAIN
NEW GUINEA
PAPUA
AUSTRALIA
BOUGAINVILLE
CHOISEUL
SANTA ISABEL
BRITISH SOLOMON ISLANDS
MALAITA
SAN CRISTOBAL
GUADALCANAL
Kaiap
Modopa
Mintima
Bilbil
Orokaiva
Inonda
Oba
Pavaere
Mbilua
Verahue
Taboko
Sughu
Ghauvalisi
Aona
Hatare
Manakwai
MALE FEMALE
Hours Worked Per Week
Cash Activity
Subsistence Activity
NEW GUINEA
PAPUA
SOLOMON ISLANDS
Guadalcanal
Total Hours Worked Per Week
Ka Mo Mi Bi Or In Ob Pa Mb Ma Ve Ta Su Gh Ao Ha
• Subsistence Activity
○ Cash Activity
Data Source: Table

Figure 6.3

Ghauvalisi devote about one-third of their time to work-related activities, compared with about one-half for Sughu females.

Table 6.16 presents the hours worked per week for the Weather Coast sites and others in the Solomons and New Guinea (Fig. 6.3). In order to provide a valid comparison the Weather Coast data had to be disaggregated for consistency. The column, subsistence production work, includes all work activities relating to subsistence gardens, food gathering, hunting, fishing and building. Activities such as food preparation, firewood collection and local council work were not included and were subtracted from the category, food preparation and other subsistence, as presented in Table 6.15.

Of especial interest in this comparison is the overall consistency of the total hours worked per week for both sexes at all sites. Verahue and Aona worked the fewest hours per week, with 14.2 and 14.7 respectively, whereas the Pavaere people worked the greatest for an average of 33.4. The range is narrow for most of the sites (20 to 27.2 hours) and suggests a unity of work habits in Melanesian villages. In addition, there may be a certain continuity of time spent on work-related activities. Farmers in these areas all raised root crops in gardens. In writing of hunters and gatherers, Sahlins (1972:34) states that, "Reports . . . of the ethnological present suggest a mean of three to five hours per adult worker per day in food production." This suggested range of 21 to 35 hours per week is consistent with the subsistence agricultural practices for almost all of the sites summarized in Table 6.16.[10]

[10] In making a comparison between these figures of hunters and gatherers with bush/fallow agriculturists the point is that a twenty hour work week is fairly standard. There is a difference in the type of work performed. The bush/fallow agriculturists maintain gardens and livestock and there is a wider range of work activities available. A factor partly responsible for the ability of the people to engage in more activities is due to the use of steel tools rather than stone tools. As Salisbury (1962:219) estimates, in the days of stone tools it took three times longer to clear land, construct fences, or build houses than with steel tools. This additional time may be used for other activities.

Table 6.16

ACTIVITIES: AVERAGE HOURS WORKED PER WEEK AT SELECTED SITES

	Subsistence production work			Cash work			Total		
	Male	Female	M/F	Male	Female	M/F	Male	Female	M/F
Weather Coast[a]									
Hatare/Poinaho	9.8	14.7	12.3	17.2	.7	9.0	27.0	15.4	21.2
Aona	11.6	15.5	13.6	2.1	.1	1.1	13.7	15.6	14.7
Ghauvalisi	30.9	22.1	26.5	.7	-	.4	31.6	22.1	26.9
Sughu	22.0	22.0	22.0	.8	-	.4	22.8	22.0	22.4
Other Guadalcanal[b]									
Verahue	10.4	12.8	11.6	4.5	.7	2.6	14.9	13.5	14.2
Taboko	17.3	23.5	20.4	7.6	11.6	9.6	24.9	35.1	30.0
Other Solomons									
Manakwai[c]	14.1	15.6	14.9	16.5	5.9	11.2	30.6	21.5	26.1
Mbilua[d]	14.4	11.6	13.0	15.0	3.4	9.2	29.4	15.0	22.2
New Guinea									
Inonda[e]	14.0	15.1	14.6	12.0	.9	6.5	26.0	16.0	21.0
Orokaiva[f]	17.5	16.8	17.2	3.4	.3	1.9	20.9	17.1	19.0
Modopa[g]	18.3	26.7	22.5	4.8	4.5	4.7	23.1	31.2	27.2
Bilbil[h]	18.6	13.9	16.3	17.0	2.1	9.6	35.6	16.0	25.8
Oba[h]	29.1	12.6	20.9	9.5	4.8	7.2	38.6	16.4	27.5
Kaiap[h]	16.9	27.2	22.1	6.1	.5	3.3	23.0	27.7	25.4
Mintima[h]	11.3	23.7	17.5	4.5	5.6	5.1	15.8	29.3	22.6
Pavaere[h]	32.0	20.9	26.5	8.6	5.3	7.0	40.6	26.2	33.4

Sources: [a] Field notes; [b] Bathgate (1973:190-1); [c] Frazer (1973:151); [d] McKinnon (1973:59; [e] Crocombe and Hogbin (1963:63); [f] Rimoldi (1966:11); [g] Waddell (1972:101); [h] Lea (1969-70).

In addition to the uniformity of total hours worked, a comparison of those sites with six or more engaged in cash work with the remainder shows fewer hours spent in subsistence production. Since the total hours worked per week fall within a close range, it appears that when cash work is available there is a resultant decrease in the time devoted to subsistence production.

The Weather Coast data in Table 6.11 relating to kumara production supports this conclusion. In Hatare/Poinaho the projected supply of kumara exceeds the projected optimal consumption of kumara by 32 per cent, whereas the comparable figures for Ghauvalisi and Sughu are 142 per cent and 193 per cent, respectively. Hatare/Poinaho farmers work fewer hours per week in the gardens and have a smaller projected surplus of kumara. A comparison of average garden acreage per household from Table 6.2 indicates that the average acreage per household in Hatare/Poinaho is .724, Ghauvalisi .418, and Sughu .953. The average yield of kumara per mound in Ghauvalisi (Table 6.5) is almost three times that of Hatare/Poinaho yet the latter's gardens are less than twice the size of Ghauvalisi's. The yields in Sughu exceeded Hatare/Poinaho by one-third yet Sughu's average household garden size is .229 acres greater than Hatare/Poinaho's. These comparisons serve to confirm the fact that Hatare/Poinaho's production and projected supply are smaller than the other two sites because fewer hours of work are devoted to subsistence production.

In Inonda, Crocombe and Hogbin (1963:66) report on the relationship of paid employment and subsistence production:

> Owing to their employment, the paid workers were able to spend less time on food production, and the average area of food garden was less (per consumption unit) in households where the adult males had paid employment than in those where they did not. The three households wherein the only man had paid work had an average of 0.72 acres under cultivation per consumption unit, the two households wherein the only man did not have paid work had an average of 1.66 acres under cultivation per consumption unit, and the three households containing two men (in each case one working and one not) had an average of 0.79 acres per consumption unit. Food intake was maintained partly by the purchase of store foods, particularly rice.

They conclude, however, that,

> Men who are engaged in paid work still engage to some extent in other types of productive work. The mainsubstitution is not paid work for other productive work, but paid work for non-productive occupations (Crocombe and Hogbin, 1963:66)

This conclusion is based on a comparison on the average man-hours per week of men with paid employment, during two weeks of a six week survey, and all men for the six week period.[11] One man in the survey had regular full-time employment for five of the six weeks and all other employment was casual. In addition, four men had employment for the first two weeks of the survey (Crocombe and Hogbin, 1963:64). Temporary employment of this nature supports the conclusion that paid work was substituted for non-productive work. It seems likely that a man would give up some social time for an infrequent opportunity to earn cash. Crocombe and Hogbin's conclusion that paid work is not performed at the expense of subsistence activities is inconsistent with their earlier comparison of garden acreage. The average garden size of an Inonda household with no wage earner is .94 acre larger than the households with the only adult male in paid employment. The fact that most Inonda wage earners are temporary casual laborers does not explain the difference in garden area either. Some other factors besides the availability of wage employment must account for the size of the gardens.

Crocombe and Hogbin's conclusion does hold for temporary employment. In the Hatare/Poinaho survey there were four wage earners who worked during the survey period. One man had been employed for four years, one for thirteen months, one for three months and one for one month. These lengths of period in paid employment are long enough, in three of the four cases, to affect

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[11] A total of eight households was included in the survey.

the size of a household's garden acreage.

Fisk (1962) indicated that it is important to identify the concealed labor surplus in a subsistence economy as it can be used as a basis for future development. In this description of subsistence agriculture, the Hatare/Poinaho data indicates that men have taken advantage of opportunities for wage employment and cash cropping, and that these new work opportunities have been substituted for subsistence production work. Consumption of kumara at Hatare/Poinaho is less than at the other Weather Coast sites but this has been offset by a better quality diet which includes fish. The smaller supply of kumara may explain the use of coconut as a primary feed for pigs, although kumara is occasionally used. Regular cash incomes have allowed the substitution of canned meat for pigs to some extent in traditional feasts. The status the farmer realized from large gardens, particularly of yam, may now have been partially transmitted to an acquisition of status from cash crops or wage employment. In the second part of this chapter other factors affecting the development of cash crops are examined such as agricultural extension services, the transportation system, opportunities for wage employment, and degree of participation in a monetary economy.

Part B: ATTEMPTS AT ECONOMIC DEVELOPMENT

Agricultural History

Prior to World War II, copra was the only crop grown for export on the Weather Coast. Although "a considerable amount of native tobacco" was grown as early as 1931 (BSIP, 1931:8), it was for personal use and internal trade. (See Table 6.17).

Other products, collected rather than cultivated for export, included ivory nuts, trochus shells, beche-de-mer, and timber. In the 1931 annual report, it was stated that "coconuts are not planted systematically by the natives but groves, the produce of which is used largely for food purposes, are to be found in the vicinity of most villages." (BSIP, 1932:9) At that time, only 13 percent of the Protectorate's copra exports were produced by Solomon Islanders (BSIP 1932: 8) a proportion which had increased to 57 percent by 1972 (BSIP, 1973: 33). In describing agricultural development in this period, Belshaw (1953:183) states that

> 'Cash crops' were produced mainly as a by-product of 'subsistence' agriculture, for the demand for money could be satisfied more easily through plantation labor. It is incorrect to say that native agriculture was unprogressive and not competitive: considered in relation to possible alternatives it served its purpose very well.

Although the coconut growing potential of Melanesian farmers was not fully exploited, efforts were evidently being made to develop secondary crops along the Weather Coast. Rice growing was first introduced to Guadalcanal in 1940 (Table 6.17) but despite the high hopes of the district officer (Horton, 1940:4), the rice crop of 1941 was a poor one because of bad weather conditions and "the ingrained conservatism of the natives" (BSIP, 1941: in accepting a new crop. It was reported that rice had been grown at Talise (BSIP, 1944a:3), and Longgu, where a successful crop was not harvested because of the war (BSIP, 1946:1), and unsuccessfully on hill tops in Bota Moli (Grass, 1945:1). After the war, in 1945, funds were obtained in further attempt to stimulate "the growing of rice as a commercial activity," (Grass, 1945a:28) although it was noted that difficulties in hulling and transporting the rice to market resulted in rice being left in the villages to rot. During a tour through Veuru Moli in October 1946, rice was distributed and planting instructions were given. (Grass, 1947:1) Several sites were identified in the Marau area in 1972, as the location of rice-growing efforts about 1940. Although rice-growing had been attempted with varying results at a number of Weather Coast sites in the early 1940s, experiments with rice commenced at Ilu farm in 1948 and were judged to be "disappointing." (BSIP, 1949:15) In spite of difficulties with hulling and marketing, rice continued to receive occasional attention and in 1956 it was reported that "good crops have been grown at Wanderer Bay." (BSIP, 1956:3).

The Guadalcanal Council brought up the subject of rice in two of their meetings in 1959 and requested that a rice huller be established at Kukum and that rice seed be made available to farmers. (GC, 1959a:5; GC, 1959b:6). In 1960, the government once again decided to conduct formal rice trials in an attempt to select a suitable variety. (LCD, 1960 1/1:31). By 1963, the Chief Agriculture Officer indicated that no suitable variety had yet been found, partially because "the Government had been experimenting with rice for the last two years." (LCD, 1963, 3/1:113). Two long-term residents of the Protectorate pointed out that the government had been experimenting with rice for at least 12-15 years with no positive results. (LCD, 1963, 3/1: 136, 147). In 1965, it was announced that the Commonwealth Development Corporation was "to embark on a major rice scheme" (LCD, 1965, 6/1:14) signaling a change from dispersed plantings by Solomon Islanders to centralized production on the Guadalcanal Plains. This attempt at large-scale production, and accompanying experiments with mechanization, continued to be plagued by difficulties and "repeated crop failure." (BSIP, 1971a:53). No rice was being grown along the Weather Coast in 1972.

Following the war greater amounts of money were forthcoming to expand the Protectorate's activities and services, as a result of which the staff of the Department of Agriculture was increased and another departmental farm was established at Kukum. There was a need to rehabilitate the copra industry, and improvements in the quality of copra produced by Solomon Islanders were facilitated by the introduction of better types of driers. Periodic attention was given to the development of commercial crops along the Weather Coast. (Table 6.17).

A variety of crops other than copra have been grown along the Weather Coast, and rice was occasionally mentioned in tour reports in the 1950's as an appropriate secondary crop. Coffee was being grown at the Avuavu mission station in 1941, although it was "ruined by excessive rain." (BSIP, 1941:12). For a time, minor fruit crops were considered to have some commercial potential, although citrus trees such as lemon, orange, pomelo, and mandarin did not become available from the Dala Experimental Station until 1969. A touring officer in 1950 suggested that the Talise district could sell oranges, bananas, and vegetables if only Honiara were not so inaccessible. (BSIP, 1950a:14) A few months later, in September 1951, the inaccessibility of Honiara was evidently forgotten and a District Officer strongly urged the members of the Talise Rural District Native Council to co-ordinate "the planting of Council orchard-gardens of oranges, bananas and pineapples." (BSIP, 1951d:1) A three-year plan (Table 6.18), in which land would be cleared and fruit planted during 1952, was suggested. During the following year, the orchard-gardens were to be tended and in 1954 produce would be shipped to Honiara. On the day following this presentation, the Talise Council resolved "that a large bush garden be established in Talise I, II and III respectively for the growing of pineapple, oranges and bananas for sale in Honiara." (BSIP, 1951e:1).

Table 6.18

THREE-YEAR PLAN -- TALISE RURAL DISTRICT

Plan to be Adopted by Council	Details of Plan	Remarks
(1) Council Orchard-Garden	1952: clear bush areas plant fruit 1953: tend the orchard-garden 1954: export produce	This scheme is aimed at erasing the financial poverty of the Council. Profits on sales in Honiara will increase Council income, enabling them to give the material benefits they want.
(2) Road Construction between Duidui and Biti	1952: clear road site 1953: lay track 1954: maintain and beautify road	Earthquake and rain have left this part of the coast without any real communications. This scheme would benefit people and government.
(3) Build Council Meeting Houses at Sughu, Malagheti and Duidui	1952: clear house site area 1953: build houses 1954: interior and exterior decoration of houses	Meeting houses are desired by the Council and they certainly lift the meetings on to a level of officialdom.
(4) Build Court Meeting Houses at Sughu, Malagheti and Duidui	As for #3	As for #3
(5) Construction of Football Pitches	1952: clear bush site 1953: lay out pitch and posts 1954: maintenance and cultivation of pitch	Perhaps this is a little ambitious but it is the only medium of social recreation yet suggested for Talise and as such should be popular.

Source: Wrightson, 1951.

A year later, in June 1952, it was reported that the headmen of Marau Bush and Tetekanji had large yam gardens that "would soon be ready for harvesting for Honiara market." (BSIP, 1952a:1). Later that year in November, Wrightson (1952:5) noted that after government "suggestion and encouragement" the headman of Moli District directed his people to build a community farm, which they did as the government had agreed to assist with the transportation of produce to Honiara. The garden of root crops was harvested but a vessel "could not be made available for transport" (Wrightson, 1952:5) and the crops rotted on the ground.

The Weather Coast remained inaccessible, yet in January 1953, it was noted that the Talise people had established gardens of yams and kumara in six villages and a poultry raising scheme in one village. Council members were once again told that they "should foster fruit orchards rather than farms of root staple crops." (Wrightson, 1953:1). In spite of many problems, there were continued attempts to grow alternate crops. In 1956, tobacco was grown in Pichahila and Sughu, (BSIP, 1956:2; BSIP, 1956a:4) and coffee plants were given to the Avuavu mission station in 1958. (BSIP, 1958:2) Bananas and pineapples were not considered to be economically practicable crops in 1961.(LCD, 1961, 1/2: 80-1) It was reported that an American firm investigated the possibility of growing pineapples in the Solomon Islands but there was a lack of suitable land at an altitude of 2,000 feet.(LCD, 1968, 9/2:7).

In addition to repeated attempts to find a satisfactory secondary crop for the Protectorate as a whole, there was also official interest, in 1961, in the selection of a crop suitable for inland-dwelling Solomon Islanders.(LCD, 1961,2/1:10).

By 1970, the Director of Agriculture indicated that possibilities were ginger, turmeric, cinnamon, and allspice although "it would be fatal for me to suggest that such-and-such crop be pushed out around bush villages at this stage." (GCD, 1970:176-7). Even more directly and bluntly the District Field Officer Central stated that "there is little we can do for people who live right away in the mountains that will benefit them or the country." (Janke, 1971). Although Project census results (see Chapter 3) indicate a steady growth of the bush populations in Wanderer Bay and Tetekanji since the war, it appears that agricultural policy does not encompass their needs.

The development of cocoa as a second export crop was pursued from 1953, and by 1958 "cocoa was selected as the crop which offered the best chance of success." (BSIP, 1964:3). The cultivation of cocoa was centered on Malaita and by 1956, there were 42,000 trees planted. (BSIP, 1958: 24) The Weather Coast people began to receive talks about the planting of cocoa from government touring officers, who met with an "apparent reluctance" to accept the proffered cocoa seeds at a Longgu/Avuavu agricultural meeting in 1956, and some suspicion of the government's objectives. It was explained, however, that "government had no intention in laying claim to either the fruit or the ground in which these specimen might be planted, and that the improvement of crops and the living of the people was one of the innumerable ways in which government aided the people. There was then an enthusiastic gathering of...seeds." (BSIP, 1956b:2) Surprisingly, three years later, the members of the Guadalcanal Council requested that cocoa growing be commenced on Guadalcanal as it had been in the Malaita and Western Districts (GC, 1959b:1) In reply, District Commissioner raised a cautionary voice and indicated that the planting of cocoa must be done slowly and on a consolidated basis because it was a difficult crop to grow and harvest. The dispersion of cocoa plantings, however, had already begun and was to continue from Avuavu east toward Marau.

The greatest concentration of cocoa trees was in the area between Pichahila and Haimarao. In 1963, about 4,000 trees had been planted in Pichahila in a four-month period. (Secombe, 1963a:2). Later in that year, the Weather Coast was described as "the most important cocoa growing area in the Central District." (Secombe, 1963b:3).

In the annual report for 1963 and 1964, it was indicated that the production of copra was still a major objective as the government had purchased and distributed 33,000 seed nuts at cost. The experimentation with rice production continued and insect pests were a major problem. The first trial shipment of chillies was sent to Britain. It was reported,however, that the development of cocoa as a second cash crop had been slower than expected. At about this time, there was an agricultural policy change to improve existing cocoa plantings by increasing the number of trees to at least 1,000 per farmer, rather than encourage additional farmers to begin raising the crop. (LCD, 1963,3/1: 18). As previously noted, the dispersal of the cocoa plantings inhibited efficient processing and transport of the beans. Production from existing cocoa trees had been disappointing, reaching a maximum of 128 tons exported in 1970 (BSIP, 1971), compared with a projected production of 1200 tons for that year (BSIP, 1964:20).

Cocoa did not assume the importance to the economy of the Solomon Islands that had been expected, and Mr. M. Kelesi indicated that he and some of his Malaitan constituents were cutting down their cocoa trees. (GCD, 1970:124). Efforts at developing a second export crop for the Protectorate continued with additional samples of chillies sent to Britain in 1966, and trials of oil palms underway by the mid-1960s. An information service was created as part of the Department of Agriculture to assist with the dissemination of agricultural news, primarily by means of radio broadcasts and a variety of visual aids. In 1967, a cooperative society on Malaita was encouraged to plant chillies on a commercial basis, the cocoa trees continued to have poor yields, and the initial results of oil palm growth were "encouraging" (BSIP, 1968:33) to the government. The export tonnage of copra had reached pre-war levels by the mid-1950s (Table 6.19) yet the record year for copra production remained 1936-37 until 1971. In an attempt to provide more direct incentives to copra producers a coconut replanting subsidy and new planting subsidy schemes were introduced in 1968. The minimum acreage necessary to participate in these schemes was 10 acres for coconut replanting and five acres for the new coconut planting scheme, although this was later reduced to three acres to allow for greater involvement by Solomon Islander farmers.

The idea of subsidizing the replanting of coconuts was first mentioned in the Legislative Council Debates in 1963 although it was indicated at that time that the idea had arisen from an Agriculture Advisory Committee in 1959.(LCD, 1963, 3/2: 144:7) It was felt, however, that a subsidy program would be too expensive and that the Agriculture Department was also subsidizing planters to some extent by the provision of improved planting materials at less than cost. The subject of a subsidy again came up in the 1966 Legislative Council Debates but was again stated to be too costly, although farmers could take advantage of agricultural extension services and the partially subsidized seed-nuts. (LCD, 1963, 7/2: 144,147). In 1967, a motion to subsidize new coconut plantings was supported by the government with the proviso that "the scheme must demonstrably produce more than the 3,000 acres which are going into the ground without a cash subsidy." (LCD, 1967, 8/2:56) At that same meeting, it was disclosed that a coconut replanting scheme would be instituted and would include a provision for seed-nuts, fertilizers, and insecticides for those farmers willing to replant 10 acres or more of their coconut plantations. This minimum acreage requirement meant, in practice, that the scheme would serve expatriate plantation owners rather than Solomon Islanders. The new coconut planting subsidy scheme was introduced in 1968 providing that one farmer, or a group of farmers, planted five acres or more to coconuts (LCD, 1968, 9/2:178). The initial results of the new coconut planting scheme were disappointing as "only eleven applications totaling 196 acres" (LCD, 1969, 10/1:3) had been received by the following year. Mr. L. Laku suggested, at a subsequent meeting, (LCD, 1969, 10/3:57) that the five-acre minimum was too high and that a two- or three-acre minimum would be more suitable for Solomon Islander Farmers. This suggestion was subsequently adopted.

Current government interest in copra production and beef-cattle production is reflected in the types of grants available (Table 6.19).

The most popular grant program amountthe farmers located along the eastern half of the Weather Coast has been the Coconut New Planting Grant. In the period April 1969 to December 1972, 128 of these grants were approved in the area between Marau and Vatukulau with a mean acreage of 4.72. Table 6.20 shows the distribution of the Coconut New Planting Grant along the southeastern portion of Guadalcanal. The percentage of households availing themselves of the grant is greatest in Marau (26%) and is least in the bush district of Tetekanji (8%) and the more inaccessible district of Vatukulau (3%). The involvement of the coastal farmers with the grant program is due, in part, to their desire to establish a crop with cash-earning potential. As indicated in Table 6.21 only 38 percent of the Weather Coast people are involved in commercial agriculture, yet there is a demand for money in order to pay the annual head-tax, school fees, household items and other expenses. Facilitating the dispersion of the new subsidized groves in the coastal districts has been an increase in the accessibility of the Weather Coast, with construction of the road extending from Marau to Balo. An agricultural extension office has been established at Manikaraku and a number of extension agents are stationed at villages along the coast. In addition to making application for the Coconut New Planting Grant, several farmers along the Marau-Balo road have initiated cattle raising projects and taken advantage of the appropriate subsidy.

Farmers in the Moli and Tetekanji districts have begun growing chillies. Although the chillie was selected by Department of Agriculture personnel as a high value crop requiring a less extensive land area than coconuts and has been cultivated on an experimental and commercial basis for a decade, it is not without problems. A long red chillie which

Table 6.20

DISTRIBUTION OF COCONUT NEW PLANTING GRANTS IN SOUTHEASTERN GUADALCANAL

District	Number of Grants	Total Number of Acres	Total Number of Households in District DE FACTO	Percentage of Households Receiving Grants	Average Acreage Per Grant
Marau (area within Weather Coast)	26	122.75	99	26	4.72
Tetekanji	7	44.00	84	8	6.29
Moli	41	174.50	306	13	4.26
Avuavu	28	144.00	149	19	5.14
Talise	18	79.75	156	12	4.43
Vatukulau	8	39.50	266	3	4.94
Total	126	604.50	1060	12	4.72

Source: District Agriculture Office, Manikaraku.
1972 Weather Coast Project Census.

Table 6.21

Local Produce Sold by Household Head

Crop	Wanderer Bay	Dui-dui	Vatu-kulau	Talise	Avu-avu	Moli	Tete-kanji	Marau
Copra	35 16%	22 8%	7 3%	3 2%	6 4%	50 16%	10 12%	62 63%
Root Crops	110 52%	40 14%	3 1%	1 1%	5 3%	17 6%	1 1%	1 1%
Chillies	5 2%	2 1%	-	-	1 1%	29 9%	25 30%	6 6%
Tobacco	3 1%	10 3%	1	-	7 5%	20 7%	2 2%	-
Pigs	16 8%	8 3%	-	-	1 1%	2 1%	1 1%	-
Cocoa	-	-	2 1%	1 1%	2 1%	-	22 26%	-
Fruit	2 1%	13 4%	1	-	-	-	-	-
Betel Nut	-	6 2%	-	-	5 3%	-	-	-
Other	8 4%	9 2%	-	1 1%	2 1%	3 1%	-	-
Number of de facto households	213	293	266	156	149	306	84	99
Total growing crops[a]	179 84%	110 38%	15 6%	6 4%	29 8%	122 40%	61 73%	69 70%

Source: 1972 Project Census
[a]Totals may be inflated, as one household may grow up to three cash crops.

grows wild in the Marau area is very similar in appearance and easily confused with the desired tabasco type chillie. One Marau district farmer received chillie seedlings from extension personnel in 1971 which he planted with the appropriate cultivation procedures. However, when he took the chillies to market in Honiara, he discovered that they were the wrong variety and was unable to sell them. The farmer purchased new planting material from a commercial source, and after removing the first planting of chillies, planted a second crop. Within a few weeks, all of the new chillies had died and the farmer was looking for more chillie plants to try again. In 1972, an attempt was made by a Marau individual to act as central buyer of the district for chillies. He purchased approximately 100 pounds of chillies and took them to Honiara for sale. The entire lot was rejected as being the wrong variety. No other cooperative efforts at marketing chillies in the Marau area have been attempted.

The tabasco chillie is the commercial crop most recently introduced to Solomon Islander farmers, so it is understandable that some problems in its production are present, but it is difficult to rationalize the inability of extension personnel to identify the correct variety. Other agricultural production problems are not easily explained. In 1971, one farmer from Veramogho had prepared two copra sacks full of cocoa beans for sale, which had been processed without fermentation as he had never been told that this needed to be done. In November 1972, Marau farmers were attempting to respond to low copra prices and a disastrous cyclone in July by seeking alternate sources of cash. One Marau man decided to try catching, drying and selling beche-de-mer and for several days he caught, boiled and dried them. Several other men were interested in the process, and within three days the three Hatare area copra dryers were being used to dry beche-de-mer. After 10 days, several hundred pounds of dried beche-de-mer were taken to Honiara for sale, but were unacceptable because the drying had been done incorrectly. The farmer learned the proper process and returned to the sea to begin catching a new load of beche-de-mer. The continuing interest of the man is praiseworthy but it is surprising that the processing of beche-de-mer is so poorly understood, particularly since beche-de-mer have been exported from the Solomons for over 50 years.

In the pre-war era, the Weather Coast people had not commercialized their agricultural practices. During the post-war period, however, the government had encouraged the production of commercial crops in addition to subsistence root crops and copra. Rice was produced in various locales in the early 1940s; the people of the central part of the Weather Coast were encouraged to plant fruits in the early 1950s; cocoa was the crop receiving the most emphasis in the late 1950s and early 1960s; now the tabasco chillie follows in the continuumof crops that have been encouraged by government officials (Table 6.17). This series of attempts has encountered a variety of problems, notably the inaccessibility of Honiara from the Weather Coast, which has resulted in various crops -- root crops, rice, and copra -- being reported rotting on the ground. In addition to the difficulties of transporting produce to market, there are difficulties in shipping items to the rural areas. For example, Mr. G. Waohaki (LCD, 1963, 3/1: 145-6), commenting upon the distribution of the improved seed-nuts to farmers, stated, "I often see nut seedling sent to people packed up that way (in copra sacks) without removing them for two or three months. How can we expect farmers to increase and improve their plantings if the department staff don't take care in quickly handling of the things we give them?" The supplying of other agricultural items has also been difficult. It was indicated that the Agriculture Department "is ready to encourage Solomon Islanders to purchase livestock" but that it was also "true that the backlog of orders of pigs is in the region of two years." (LCD, 1961, 2/1:134). Moreover, in addition to poor marketing and supply facilities there has been a problem in educating farmers in the required standards of husbandry for unfamiliar crops, such as rice and cocoa.

In 1952, it was reported that "no government services are provided but the Guadalcanal Native Council hopes to have Agricultural assistants trained at Council expense." (Shipper, 1952:1) In the following year, the Acting Senior Agricultural Officer, Mr. Mead, "regretted that no officer of his department had worked in the Central District for 5 years but hoped that a touring officer would be available in 1954." (BSIP, 1953:1). Later, an agricultural station was established near Pichahila and was staffed by a Field Assistant, a Cocoa Assistant, and a Copra Drier Builder. In 1964, Pichahila was the center for cocoa production along the Weather Coast and the agricultural station had demonstration plots of cocoa, coconut, soya bean, peanut, taro, yam and kumara in addition to a demonstration piggery and tobacco barn. (LCD, 1964, 5/1: 159) Two years later, Mr. M. Rapasia indicated that "the Agriculture people have departed, leaving the station bare." (LCD, 1966, 7/2:159) The Director of Agriculture replied by stating that the station had run down due to the difficulty of access to Pichahila since the Weather Coast road had deteriorated. This lack of agricultural supervision in the 1940s and 1950s and subsequent establishment/ disestablishment of the Pichahila agricultural station leads one to question the continuity of agricultural policy and efforts.

In 1960, Mr. Alufurai discussed this point and indicated that the government had "launched out new schemes...every second or third year and there is that lack of following up." (LCD, 1960, 1/1:75) Several years later, Mr. Alufurai discussed the lack of continuity among agricultural personnel. "They have different ideas and different methods of planting cocoa and different techniques and as one head changes or leaves these alter, one new one comes and takes over and his techniques are different and this has left the people rather confused as to what method to follow in cocoa planting and maintenance." (LCD, 1964, 5/1:143).

More recently, the new coconut plantings in southeastern Guadalcanal have been complemented by the continued presence of agricultural extension personnel and the renewed efforts to construct the Weather Coast road, which will make more areas accessible to the all-weather anchorage at Marau. The various government grants available in recent years for the development of coconut groves have, for the first time, been related to an agricultural crop familiar to Solomon Islanders. Continuation of these programs over an extended period should enhance the farmer's awareness of the government as a stable and accessible source of assistance. Since the rate of participation in commercial agriculture by Weather Coast farmers remains low, it seems logical that initial involvement should be by way of familiar crops. Consistent with this approach would be the further development of root crop gardens, pig husbandry, and the processing of beche-de-mer. Obviously, there is a need on the Weather Coast, with its limited agricultural land resources to continue with the development of a more intensive crop than the coconut. The ability to properly identify the tabasco chillie should be a major objective. The raising of cattle in conjunction with coconut groves intensifies the agricultural use of that land, although shipping cattle to a Honiara slaughter-house may prove expensive.

While it appears rational, from Honiara, to pursue a policy of central development, based on very real constraints of capital, accessibility and available extension personnel, it may be difficult for the people in the villages to see how such a policy will assist them in attaining the level of living to which they aspire.

Economic Stimulation

The basic aims of agricultural policy in the British Solomon Islands are: to strengthen the economy; to raise the level of subsistence in rural areas; to assist in ensuring the optimum use of land; to identify diseases or degradations of crops, animals or poultry; to contribute to the educational advance of the people; and to improve methods of agriculture. (BSIP, 1964:1-2) More recently, basic agricultural policy has been, in more practical rather than theoretical terms, "to encourage people to move to accessible areas with high agricultural potential and to concentrate our efforts in these areas" (Janke, 1971) and "to help farmers move from subsistence to commercial scale farming" (BSIP-N, 1974b:8). These aims, as stated in the White Paper on Agriculture, (BSIP, 1964) are unassailable and are the foundation of any good agricultural policy. The implementation of such policies accentuates variations between countries, regions, and districts. The methods used by the agricultural sector to strengthen the economy and to raise the level of subsistence in the rural areas are of interest as they relate to the Weather Coast. Agricultural crops that are used for economic purposes or to increase rural subsistence levels may be classified as export earners, import savers, or as improving dietary and nutritional levels.

Copra has always been the leading export earner of the Solomon Islands, yet whereas in 1924-25 copra accounted for 87 percent of export revenues (BSIP, 1930:6) by 1970 it had decreased to 52 percent (BSIP 1971:142). In 1970 the second leading export earner was lumber which accounted for 41 percent of total exports. By 1985, total copra production is projected to increase from 25,000 tons to 65,000 tons, or approximately 160 percent (BSIP, 1971a:47). During the same period, the population is projected to increase from 156,066 to 266,952, an increase of 71 percent. (Groenewegen, 1971: Tables 6-10). Because of its recognized importance to the economy (BSIP, 1964:3), there is an expectation that both total and per capita production of copra will increase.

The diversification of agricultural export crops has been a basic policy of the post-war era in the Solomons although various crops had been grown on a small scale for many years previously. By 1957 it was reported that cocoa, coffee, cotton, fibers, peppers, rubber, and sugar had all been cultivated. (Grover, 1957:299). Rice had been introduced to Guadalcanal farmers in 1940 (Horton, 1940:4) and by the next year, they were being encouraged to grow two crops: copra and rice (BSIP, 1941:4) A major effort was initiated in 1958 to develop cocoa as a second export crop although this project has since been adjudged as "a costly failure" (BSIP 1971a:54) because of the attempt to disperse cocoa plantings among Solomon Islander farmers particularly on Malaita. (LCD, 1964, 5/1:72; LCD, 1966, 7/1: 5-6; LCD, 1968, 9/2:260) Currently, oil palms are being planted on a single 8,000 acre plantation on the Guadalcanal plains in the hope that the oil palm will "become the second main crop by 1980." (BSIP, 1971a:41). The tabasco chillie has been suggested to farmers as being a high value crop requiring minimal amounts of land for its production.

Rice and beef cattle production have been encouraged as import-saving agricultural enterprises. A private company is developing an extensive rice-growing area on the Guadalcanal plains, which has recently been taken over by Hawaiian Agronomics, a subsidiary of C. Brewer Company, one of the original "Big Five" companies prominent in Hawaii's history. They plan to increase the rice producing area on the plains from 1,000 to 5,000 acres and build two new rice mills, which would allow for export of rice, in addition to supplying the local market (BSIP-N, 1974, 10:1) Cattle continue to be introduced to coconut plantations planted with appropriate pasture grasses such as the batiki blue or elephant grass, both to minimize maintenance and provide a local source of beef. An agreement was signed with the Solomons

Taiyo Company, a Japanese firm, in late 1972 to develop a skipjack tuna industry. These three projects are designed to reduce the need for imports of meat, fish, and rice which in 1970 together accounted for 10.5 percent of the value of all imports (BSIP, 1971:140).

Crops that improve the nutritional or dietary level of the people have been limited to field trials and experiments conducted at the Dala Experimental Station with various subsistence root crops. Information has been gathered about crop yields, rotational cropping systems, pest and disease control, and mechanized production methods. The subsistence crop research has had little practical application for the Solomon Islander farmer although there was some concern that more research could have been done to find taro varieties resistant to blight (LCD, 1964, 5/1:136). A few citrus seedlings are available for planting but their distribution has been minimal.

Extensive acreage on the Guadalcanal plains is being devoted to palm oil and rice crops, which require costly processing, with the plan that individual farmers around this nucleus will cultivate one of the two crops and be afforded access to the processing plants. The director of the newly-expanded Guadalcanal Plains Limited stated that the company "hoped to go into co-operative schemes with local people" although "he had asked them to wait until the GPL company was financially stable." (BSIP-N, 1974, 10:1).

While the overall aim of agricultural policy is to encourage and expand copra production. The search for a second export crop continues with the switch from dispersed cocoa plantings to large oil palm plantations. Rice production and fishing, as import-savers, are in the initial stages of development by private companies. The raising of beef cattle within coconut paddocks by both expatriates and Solomon Islanders is being encouraged. Currently, the Solomon Islander on the Weather Coast may grow coconuts and root crops for sale, cultivate chillies, and raise cattle. His involvement in commercial agricultural activities has been low: only 12 percent of the Weather Coast households sell copra, 11 percent sell root crops, 4 percent sell chillies and no one is yet selling cattle (Table 6.21).

Agricultural Extension

As most developing countries are substantially agricultural, with the economy often based on agricultural exports, the importance of agricultural extension work in rural development can hardly be over-stated. Its overall purpose is to educate the farmers and to stimulate the use of improved agricultural techniques and growth of output. This is true of all countries even though methods may vary. The facets necessary to achieve these ends include: the establishment of stable, practical and constructive policy goals; the most effective and efficient use of personnel and finances; and the modeling of programs to suit local conditions such as materials, physical limitations, and populace.

Although it was impossible to measure all facets of agricultural extension work, an attempt was made to examine the knowledge and understanding of general policy by the people; departmental contact with the people; and awareness by the people of subsidies and other cash crops.

The survey was conducted in the Sughu, Ghauvalisi, Koloula (both bush and coast), and Marau areas, the same ones in which subsistence agriculture practices were studied. It is worth noting that Sughu has both a Field Assistant and an extension agent at about six hours walk from the village. In previous years an extension agent was stationed in Sughu, but has been removed since the 1971 cyclone. Marau has a Senior Field Assistant in residence and is the location of the South District Agricultural Station. Ghauvalisi used to have an Extension Assistant within a half hours walk but he has been transferred to a village on the Marasa river some distance away. The Koloula area is on the edge of the South Agricultural District and is approximately 6-7 hours walk from an extension agent.

Some of the people interviewed, however, belonged to the Eastern Agricultural District (saltwater) and therefore were about 4-5 hours from the extension agent responsible for their area.

The list of available subsidies given in Table 6.19 is a clear indication of the priorities within the department of agriculture. In addition, some emphasis is being placed on the raising of pigs and the establishment of piggeries but no subsidies have been introduced to aid in their development. There are various means by which the department can disseminate aid and information about its goals to the people. The use of leaflets and handouts is quite common as is the publication of other printed material.

Radio

In an area such as the Solomons where literacy is low, where languages vary, and where geographical barriers exist, the radio would seem to be a good means for effective and low cost transmission of news and information. Although the aim of the survey was not to determine the effects of the S.I.B.S. on the dissemination of information, two questions were included in order to obtain information about the extent of interest in agriculture broadcasts. Positive answers to the question "Do you own a radio" varied by location but, in general, were low averaging only 11% (Table 6.22) Ghauvalisi was unusual in that it had no radios but, compared to other sites, Ghauvalisi is low in luxury items in general. However, radio news does not stop at those who own radios but spreads to others both directly and indirectly.

Although only 11% of those interviewed owned radios, 29% listened to the broadcasts on agriculture at least sometimes. The people in Sughu seemed to listen to the agriculture broadcasts more although the number of radios available is not appreciably higher. The other three areas listened in amounts roughly equal to each other and to the number of radios present, although there

Table 6.22

Radio Ownership and Listening to Agriculture Broadcasts

(Per cent of households interviewed)

	Sughu[s]	Ghauvalisi[b]	Koloula[s]	Koloula[b]	Marau[s]
Radio Ownership	13	0	18	11	12-1/2
Always listen	20	0	12	4	10
Sometimes listen	34	0	24	27	16

s Saltwater

b Bush

Source: Agriculture Household Survey.

were differences in the number of those who listen regularly and those who listen only sometimes. The bush people of Koloula listen less regularly than do those on the saltwater, for reasons which are not clear.

The total number of those who said they listened to the Agriculture broadcasts was low, which may be explained in part by the inability of the majority to understand the language of the broadcasts. Beyond this, however, news is often carried by word-of-mouth on the Weather Coast, which explains why information is more widely spread than is evident from Table 6.22. The people in Ghauvalisi receive radio information from nearby villages and do not seem to feel the lack of a radio to be a disadvantage. The same feeling was expressed in other areas because information is easily available from those who possess one. Radios were often viewed as vehicles for music and general amusement rather than for the distribution of government information, with more people listening to local news and music than to "information" broadcasts such as those on agriculture. Thus, although more people listen to radio, this is not shown in the table because the question asked specifically about agriculture broadcasts.

Agriculture Extension Personnel

Beyond printed material and radios, the most important source of information dissemination should be the agriculture extension field worker - the Senior Field Assistant, the Field Assistant and the Extension Agent. A major effort was made to determine the extent of departmental contact through its personnel, and the extent of information dissemination through them. Although there are differences between survey areas, general trends emerged quite clearly from the results. Distance of the agriculture personnel from the site seems to be an important factor in the dissemination of information, even as distance from Honiara seems to be a chief factor in the growth of any cash crop. That there is a departmental policy to withdraw from the less accessible areas such as the bush is also clear. But although extension programs are aimed at coastal dwellers, the effect of concentration has been lower than might be expected.

Knowledge of the name of agriculture personnel at the field level was especially high in four areas (Table 6.23), although some confusion as to titles existed in all areas. The rapid turnover of personnel and unawareness of boundaries within the agricultural districts, led to some confusion about their location and jurisdiction. Some of those able to name at least one of the agriculture staff were often able to name two and even three of those in their own area. It was not possible to determine which level of personnel was best known as the level of personnel along the coast is not consistent and the place of residence or its distance from survey areas confounded the results. When an Agriculture employee lives in close proximity to an area it is difficult to determine whether he is known for that reason or because of his duties as a member of the department.

It is interesting that the Koloula Bush is the only area where knowledge of even one Agriculture person is below the average for the five areas combined, while the other four are above average. This corresponds with the lack of agriculture visits to this area. The Koloula bush people were aware that agriculture personnel existed but were unable to name them or where they were stationed. Marau on the other hand, has 100% knowledge of the one person who lives within the survey area.

The percentage of those informed as to the name and/or location of personnel is higher, as would be expected, than that of those receiving help or advice. Again the Koloula Bush is outside the relative consistency of the other four sites. What is at first surprising, is the extent of help received in the other bush area, Ghauvalisi. This may be somewhat explained

Table 6.23

KNOWLEDGE OF EXTENSION PERSONNEL, AND ADVICE RECEIVED

(PER CENT OF HOUSEHOLDS SURVEYED)

	Sughu	Ghauvalisi	Koloula[s]	Koloula[b]	Marau	Average
Knowledge of personnel	67	62	65	11	100	61
Advice Received	27	31	29	4	41	26

[s] Saltwater

[b] Bush

Source: Agriculture Household Survey

by its location in the flat, fertile valley of the Tina River, which gives it some of the advantages of the coastal sites. Koloula on the other hand, is true bush, where more rugged topography contributes to greater inaccessibility. However, it seems highly likely that in the Sughu area more help was received from the agriculture department than the people spoke of. There was a tendency in all areas to interpret this question to mean help received only and not advice. There seems to be some evidence which suggests that these figures should be higher.

Subsidies

Knowledge of subsidies is, for the most part, higher than might have been expected, but corresponds well with the contact of agriculture personnel in all areas (Table 6.24). The knowledge of subsidies is heavily weighted on the side of coconut subsidies with a noticeable change in knowledge about the others available - those for cattle and one for fertilizer. This is true in all the areas except Marau where all persons interviewed were aware of all the subsidies - again a function of the presence of the senior field assistant and station. Knowledge of subsidies in four of the five areas is high and corresponds to the knowledge of agriculture personnel. The figures in Table 6.24 are somewhat deceptive, in that many were unable to name specific subsidies and in many cases, though they knew there were subsidies, did not know there were different ones available for both coconuts and cattle with different requirements for each. Others named subsidies for pigs and chicken care - both of which have not been available. Much confusion existed as to requirements for obtaining a subsidy and their responsibilities to the government once they had. Some persons expressed a fear of placing themselves under the "power" of the government by accepting a subsidy.

The figures also hide the variation that occurs between survey areas, since they do not show the variation in types of

Table 6.24
AWARENESS OF SUBSIDIES AVAILABLE
(PER CENT OF HOUSEHOLDS SURVEYED)

	Knows Any	Coconut	Cattle	Fertilizer	Taken Advantage
Sughu	67	67	7	0	0
Ghauvalisi	69	69	31	8	23
Koloula saltwater	65	35	12	18	12
Koloula bush	22	7	8	7	2
Marau	100	100	100	100	41
Average	77	56	32	27	16

Source: Agriculture Household Survey

subsidies known by area. Apart from Marau, only Ghauvalisi was relatively well informed on any subsidy other than on coconuts. They knew of the cattle subsidies since a cattle project had been initiated in the valley area. The Marau figures thus distort the average figures obtained.

Although the knowledge that subsidies do exist seems to be widespread, their actual use varies considerably (Table 6.24). This appears to be due to Koloula's location so far from the market compared with the other areas. It is surprising, however, that none of those interviewed in Sughu had ever taken advantage of a subsidy. This is especially unusual in view of the placing of a field assistant there until the 1971 cyclone, the presence of an all-weather anchorage for easy transport, and the coastal location. Although Sughu has not the flat land available in Marau, a great many coconuts are grown for copra. The reasons for this non-use of subsidies may be related to the attitude of the people toward the work involved in obtaining the subsidies. Like others along the Weather Coast, people expressed the opinion that too much work and too many regulations were involved in getting a subsidy. Chief of these regulations was the necessity to have 3 acres of flat land on which to plant in order to qualify, something which is hard to achieve in many areas.

Of those who have subsidies, the largest number are in Coconut New Planting Grants (19 of 23), while two in the Koloula region claim Fertilizer Subsidies, one in Ghauvalisi has a Coconut Rehabilitation grant and one in Marau a Stockyard and Fencing grant. Several persons in all sites except Koloula Bush were thinking of applying for one of the cattle subsidies and four were in the process of fulfilling regulations in order to apply.

Many coconuts are grown on the Weather Coast, regardless of the lack of subsidies, again with the exception of the Koloula Bush, where flat land is unavailable and coconuts are hard to grow. However, while many persons grow coconuts, not all of them sell copra, partly because coconut is an important element in the diet, but also because the January 1972, cyclone destroyed many trees and high losses were incurred in many areas, especially in Marau, and because a decline in the price of copra has discouraged many others.

Although the data are incomplete, together with the project census they suggest a negative correspondence between those who grow coconuts and those who plant other cash crops of a non-local nature (Table 6.25). Knowledge of the availability of cash crops other than copra is scattered and while Marau's high knowledge of subsidies corresponds with high knowledge of other crops there is little follow-through to ever having planted them. Although Sughu's knowledge of cash crops is low, and none of those interviewed grew any other cash crops, one man in the area had started to grow chillies. Despite no use of subsidies, a large amount of copra is produced in Sughu. Ghauvalisi and the Koloula saltwater are both high in the growth of cash crops compared to the other saltwater areas, yet Ghauvalisi's knowledge of cash crops is considerably lower than Koloula's. The high level of Koloula saltwater knowledge may reflect the fact that a former extension agent lives in the area. Neither area grows as many coconuts for copra as Sughu or Marau. The Koloula bush lags behind, in both knowledge of other crops and planting, yet is growing as many other crops as either Sughu or Marau in this case. This may indicate, that those areas where copra is unimportant may be those where other cash crops become more important as a substitute.

Marau is an example of an area where copra dominates cash cropping, almost to the exclusion of other possibilities, whereas Sughu supplements copra sales with traditional crops. Ghauvalisi and the Koloula saltwater seem to be experimenting with both cash crops and the sale of more familiar crops, while the minimal involvement of the Koloula bush is consistent with

Table 6.25

CASH CROPS KNOWN AND PLANTED

(PER CENT OF HOUSEHOLDS SURVEYED)

	Sughu	Ghauvalisi	Koloula saltwater	Koloula bush	Marau	Average
Coconuts grown for copra	67	62	59	7	91	57
Other cash crops known (any)	20	38	88	26	94	53
Chillies	20	38	88	15	94	51
Cocoa	0	8	88	20	87.5	41
Oil palm	0	0	82	17	81	36
Other cash crops ever planted						
Chillies	0	31	23	0	3	)
Cocoa	0	0	12	4	0	)13
Oil palm	0	0	0	0	0	)
Other[a]	87	23	29	2	0	31
Problems in growing cash crops						
Transportation	7	8	59	87	0	
No money	13	-	-	2	28	
No land	13	-	12	-	12	
Weather	-	-	23	4		
Too old	7	-	-	-	9	
No time	-	-	-	-	16	
Other	13	-	-	2	3	
No response	60	92	6	4	16[b]	

[a] Includes root crops, tobacco, peanuts, vegetables, and oranges.

[b] 16% at Marau indicated "no problems".

Source: Agriculture Household Survey.

their knowledge of available crops and their isolated position. Transportation is undoubtedly a key factor in the bush reluctance to grow cash crops. Ghauvalisi, although a bush village, has an advantage in its newly opened airstrip which makes it atypical.

The answers to the questions about problems (Table 6.25) reflect the relative advantages and disadvantages of the sites. Whereas Marau listed lack of money and time (because of already high involvement with copra) and even no problems, the Koloula people were concerned with transportation and weather. Sughu also listed lack of money and flat land. The trends which emerge are that differences in growth of cash crops are based on distance from market, and from agriculture personnel, as well as basic differences between bush and saltwater locations. The last is reinforced by the results from Koloula (Fig. 6.7). Here the population is closely knit, the distance from a market is nearly the same, but the differences in accessibility and topography are great and seem to explain differences in contact with the agriculture department and in selling cash crops.

Koloula Valley

Table 6.26 shows that contact with agriculture personnel is lower in all cases in the bush, although those in the bush who asked for help received at least a visit while those on the coast were not always so fortunate. Agriculture policy of concentration on contact with saltwater people is evident here.

It is also evident from Table 6.26 that agriculture personnel are making fewer visits to the village than desired by the people. On the other hand, about an equal number of bush and saltwater people said they had gone to another village to have meetings with Agriculture Department personnel - 24% Bush and 29% Saltwater. This may be an indication of interest in the Agriculture Department by the people. However, the Weather Coast villager's concept of "help" does not include talks, so that while an Extension Agent may have told them of cash crops and

Table 6.26

CONTACT WITH EXTENSION PERSONNEL - KOLOUALA

		BUSH		SALTWATER		TOTAL	
		No.	%	No.	%	No.	%
A. Does your present Field or extension assistant come to your village:	YES	3	7	7	41	10	24
	NO	43	93	10	59	53	76
B. How many times this year has he come?	NEVER	44	96	12	71	56	83.
	1 TIME	0		2	12	1	
	2 TIMES	2	04	1	06	3	05
	3 TIMES	0		1		1	
	MORE	0		1		1	
C. When was the last time he came?	NEVER	43	93	10	59	53	76
	THIS WEEK	0		1		1	
	THIS MONTH	2		0		2	
	WITHIN SIX MONTHS	0		4	23	4	11.
	WITHIN THIS YEAR	0		0		0	
	WITHIN THREE YEARS	1	02	2	12	3	07
D. Did you talk to him last time he came to the village?	NEVER COMES	43	93	10	59	53	76
	YES	1	02	3	18	4	10
	NO	2	04	4	23	6	14

Table 6.26 (Cont.)

		BUSH		SALTWATER		TOTAL	
		No.	%	No.	%	No.	%
E. When was the last time you spoke to an FA or EA (on the Weather Coast)?	NEVER	42	91	8	47	50	69
	THIS WEEK	0		0		0	
	THIS MONTH	1		0		1	
	WITHIN SIX MONTHS	1		3	18	4	10
	WITHIN THIS YEAR	1		1		2	
	WITHIN THREE YEARS	1	02	5	29	6	15.5
F. What does he talk about?							
	DON'T KNOW	42	91	7	41	49	66
	NOTHING SPECIAL	1	02	0		1	01
	SOMETHING	3	07	10	59	13	33
FOOD GARDENS		0		0		0	
CASH CROPS		3		9		12	
COCONUTS		2		9		11	
SUBSIDIES (GRANTS)		2		8		10	
OTHER		0		0		0	
G. What does your FA or EA talk about most to your people?	NO RESPONSE	46	100	10	59	56	79.5
	CASH CROPS	0		2	12	2	06
	COCONUTS	0		5	29	5	14.5
H. What does he (FA or EA) do when he comes?	HE NEVER COMES	43	93	10	59	53	76
	NOTHING SPECIAL	0		1	06	1	03
	SOMETHING, SEE BELOW	3	07	6	35	9	21

Table 6.26 (Cont.)

		BUSH		SALTWATER		TOTA	
		No.	%	No.	%	No.	
	TALK ABOUT AGRICULTURE	2		5		7	
	LOOK AT THE GARDENS	0		0		0	
	LOOK AT CASH CROPS	2		4		6	
	BRING SEED OR PLANTS	1		0		1	
	BRING FERTILIZER	1		2		3	
	OTHER	2		4		6	
	TALK SUBSIDIES		1		2		
	SPRAY COCONUTS		1		1		
	OTHER		0		1		
I. Has any Agriculture Department person ever offered to help you with your:							
	FOOD GARDENS	0		0		0	
	MORE THAN ONCE	0		0		0	
	CASH CROPS	1		1		2	
	MORE THAN ONCE	1		1		2	
	COCONUTS	0		2		2	
	MORE THAN ONCE	0		2		2	
	NEVER OFFERED	45	98	15	88	60	9
	HAS BEEN OFFERED	1	02	2	12	3	0

Table 6.26 (Cont.)

		BUSH No.	BUSH %	SALTWATER No.	SALTWATER %	TOTAL No.	TOTAL %
J. If yes, Who from the Agriculture Department has offered to help you this last year?	NO RESPONSE	0		1		1	
	NOT THIS YEAR	1		0		1	
	FA AND EA	0		1		1	
K. Have you ever asked for an Agriculture Department person to help you with:							
	FOOD GARDENS	0		0		0	
	MORE THAN ONCE	0		0		0	
	CASH CROPS	0		0		0	
	MORE THAN ONCE	0		1		1	
	COCONUTS	2		6		8	
	MORE THAN ONCE	1		4		5	
	NEVER ASKED	44	96	11	65	55	80.5
	HAS ASKED	2	04	6	35	8	19.5
L. If yes, After you asked did they come to help:	ALWAYS	2	100	3	50	5	75
	SOMETIMES	0		0		0	
	NEVER	0		2	33	2	16.5
	NO RESPONSE	0		1	17	1	08.5
M. During this last year did you ever go to another place to meet any Agriculture Department people?	YES	11	24	5	29	16	26.5
	NO	35	76	12	71	47	73.5

Table 6.26 (Cont.)

		BUSH		SALTWATER		TOTAL	
		No.	%	No.	%	No.	%
N. Have any other Agriculture Department people come to your village this last year?	YES	1	02	3	18	4	10
	NO	45	98	14	82	59	90
O. If yes to 10A, what are their names or titles?	KNOWN	1		2		3	
	FORGOTTEN	0		1		1	
P. How many times altogether did these other Agriculture Department people come to your village this last year?	NEVER CAME	45	98	14	82	59	90
	ONCE	1	02	3	18	4	10
	TWICE	0		0		0	
Q. Were any of the Agriculture Department people you saw this year white men?	YES	0		0		0	
	NO	46	100	17	100	63	100
R. When was the last time you spoke to an Agriculture Department person other than your FA or EA? (on Weather Coast)	NEVER	44	96	14	82	58	89
	THIS WEEK	0		0		0	
	THIS MONTH	0		0		0	
	WITHIN SIX MONTHS	1	02	0		1	
	WITHIN THIS YEAR	1	02	2	12	3	07
	WITHIN THREE YEARS	0		1	06	1	

Table 6.26 (Cont.)

		BUSH No.	BUSH %	SALTWATER No.	SALTWATER %	TOTAL No.	TOTAL %
S. How often would you like your FA or EA to come to the village:	NEVER	0		0		0	
	3-4 TIMES A MONTH	14	30	1	06	15	18
	1-2 TIMES A MONTH	19	41	2	12	21	26.5
	3-4 TIMES A YEAR	7	15	5	29	12	22
	1-2 TIMES A YEAR	2	05	0		2	02.5
	DON'T KNOW	1	02	3	18	4	10
	OTHER	1	02	4	23	5	12.5
	NO RESPONSE	2	05	2	12	4	08.5
T. If more Agriculture Department people came to the village do you think it would help?	YES	44	07	13	76	57	86
	NO	2	04	4	24	6	14
U. If yes, what kinds of things do you think they could do?							
	SHOW TO PLANT EVERYTHING	11	24	5	29	16	26
	SHOW TO PLANT CASH CROPS	6	13	4	23	10	18
	SHOW TO PLANT VEGETABLES	13	28	0		13	14
	SHOW TO PLANT VEGETABLES & CASH CROPS	7	15	1	06	8	10.5
	SHOW TO PLANT CITRUS	1	02	0		1	01
	SHOW TO PLANT FOOD CROPS	2	04	0		2	02
	TALK	1	02	0		1	01
	OTHER[a]	4	09	5	29	9	19
	NO RESPONSE	1	02	2	12	3	07

[a] Other includes:
Visit every man not just Big Men.
Should show place to plant, how to plant, what ground is good.
Should demonstrate, not just Walkabout.
Show, not just talk.

Source: Agriculture Information Survey.

subsidies during a meeting, this is not considered to be help.

There is a high level of agreement among the villagers in the Koloula area that the agriculture personnel do not come as often as they would wish, but little agreement on how often he should come or even what he should do if he comes.

Although 71.5 per cent wanted the field agent to show them how to plant, they did not agree on what. Both bush and saltwater had a majority that said simply "everything" while 28 per cent bush wanted to learn to plant vegetables and 15 per cent to plant both vegetables and cash crops. Twenty-three per cent of saltwater people wanted the agriculture personnel to show them how to plant cash crops and no other answer received a large number. What came out in the majority of the interviews was the feeling that the agriculture personnel talked a great deal but did not follow through with demonstrations, a complaint which may or may not be legitimate.

An effort was made to determine how much the people of Koloula knew of those crops that the department was currently interested in having people plant (Table 6.27). Many in the bush said they did not know while those on the coast claimed some knowledge of department priorities. When asked to name these crops, 33% named vegetables as a food crop and as a cash crop, 80% were able to name Chillies, 64.5% cocoa, 59.5% copra and 15% both turmeric and ginger. When asked to state their preference as to a cash crop that they would grow well both bush and saltwater made positive answers. Of these 45% bush named vegetables 18% named chillies and 13% coconuts. The saltwater people were more divided in their replies with 19% stating everything, 29% root crops and 9.5% coconuts and fruits. None of those asked named turmeric or ginger and it is interesting that only 11.3% thought of copra as a good cash crop. Whether their preferences are feasible we have not tried to determine but it is interesting to note the priorities that the people themselves placed on cash crops.

Table 6.27

CASH CROPS PREFERRED BY AGRICULTURE AND BY PEOPLE

	BUSH No.	BUSH %	SALTWATER No.	SALTWATER %	TOTAL No.	TOTAL %
A. Have you heard of any crops that the Agriculture Department wanted people to grow?						
YES	6	13	15	88	21	50.[illegible]
NO	40	87	2	12	42	49.[illegible]
B. If yes, Which?						
1) FOOD CROPS ONLY	0		0		0	
2) CASH CROPS ONLY	4	67	10	67	14	67
3) FOOD AND CASH CROPS	2	33	5	33	7	33
4) NO RESPONSE	0		0		0	
NUMBER OF RESPONSES BY CROP						
FOOD-- VEGETABLES	2	33	5	33	7	33
PEANUTS	0		1		1	03.[illegible]
CASH-- COCONUT	2	33	13	86	15	59.[illegible]
CHILLIES	4	69	14	93	18	80
COCOA	4		9	60	13	64.[illegible]
TURMERIC	1	17	2		3	15
GINGER	1	17	2	13	3	
CITRUS	1		1	07	2	12
PEANUT	0		1		1	03.[illegible]
ANIMALS	1		0		1	08.[illegible]
C. If yes to A, How did you hear that the Agriculture Department would like people to grow this crop(s)?						
AGRICULTURE PERSONNEL	3	50	10	67	13	58.[illegible]
RADIO	2		0		2	
PRINTED MATERIAL) COUNCIL MEETINGS)	1		0		1	
FRIENDS	0		0		0	
NO RESPONSE	2		5		2	
D. Is there any cash crop that you think would grow well on the Weather Coast?						
YES	40	87	13	76	53	81.[illegible]
NO	6	13	4	24	10	18.[illegible]
E. If yes, Which crop?						
EVERYTHING	0		4	19	4	9.[illegible]
VEGETABLES	27	45	1	04.	28	24[illegible]
CHILLIES	11	18	1	04.	12	11[illegible]
COCONUT	8	13	2	09.5	10	11[illegible]
FRUIT (+CITRUS)	6	10	2	09.5	8	[illegible]
ROOT CROPS	0		6	29	6	14[illegible]
COCOA	3	06	1	04.7	4	[illegible]
OTHER	5	08	4	19	9	1[illegible]

Source: Agriculture Information Survey

Finally, it was asked how many people actually sold crops to earn money, and if so where and how these crops were transported (Table 6.28). A total of 19 persons, 41% average, said they had sold crops but only 9 of these to Honiara. Of those sold in Honiara 5 had sold copra (two with other products and 3 copra alone), while three others in the saltwater and 1 in the bush had planted peanuts, tobacco or oranges for sale in Honiara. The other 10 people had only grown casual crops for sale in the area and had not deliberately planted them for sale.

The 9 persons who actually sold products is in sharp contrast to the number who said they raised things for sale (24 persons). However, of those who claimed to have planted crops for sale, 8 had coconut trees that were not bearing yet and 7 who had planted chillie, cocoa or both had either planted the wrong variety or the plants had not grown well enough to be able to sell their produce. Much overlapping of cash crops grown occurs in the Koloula region in that the person who tries one cash crop is likely to be growing others for sale as well.

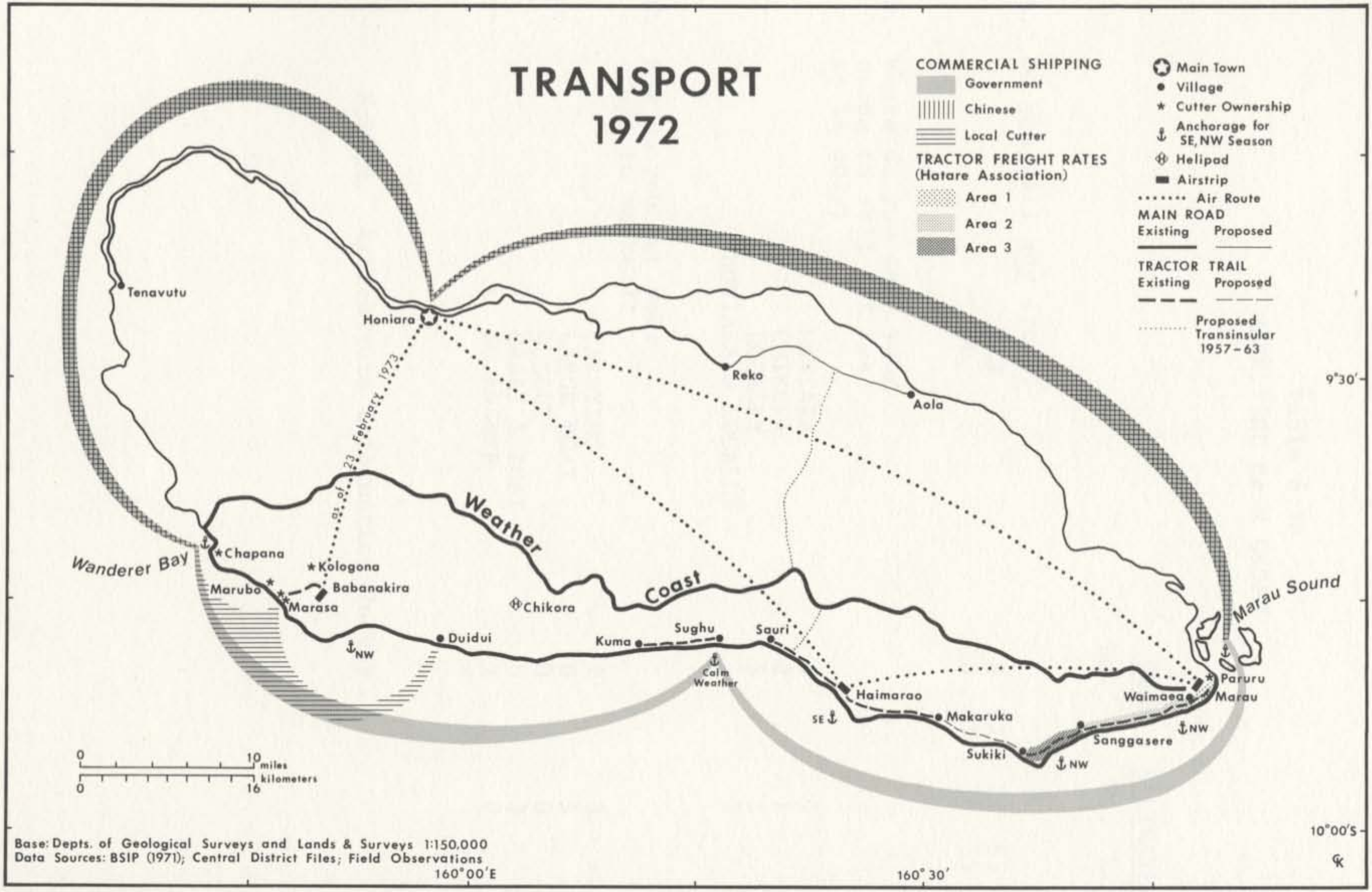
Underlying many of the answers in the area, and especially in the bush, was a feeling of frustration and neglect. It is impossible to say what reaction might be achieved if work by the department were intensified in the region, but the current feeling is that "No one ever comes here, this is a hard side".

It is also apparent that cash cropping, at best, is experimental and not critical to the people. Those that grow cash crops are not dependent on them, nor do they feel compelled to give up their food crops in an effort to grow more cash crops. As one man put it "Food is important, everything else is research only".

Table 6.28
MARKETING CASH CROPS

	BUSH No.	BUSH %	SALTWATER No.	SALTWATER %	TOTAL No.	TOTAL %
A. Do you sell any crops?						
YES	8	17	11	65	19	41
NO	38	83	6	35	44	59
B. Where do you take your crops to sell (if Yes to 1A only)						
HONIARA	0		5		5	
CHIKORA	2		1		3	
LOCALLY	5		2		7	
HONIARA & LOCALLY	1		3		4	
C. How do you get your crops to market?						
CARRYING	7		3		10	
LARGE BOAT	0		5		5	
DUGOUT	0		0		0	
CARRY & BOAT	0		3		3	
NO ANSWER	1		0		1	

Source: Agriculture Information Survey



TRANSPORT
1972
COMMERCIAL SHIPPING
Government
Chinese
Local Cutter
TRACTOR FREIGHT RATES
(Hatare Association)
Area 1
Area 2
Area 3
Main Town
Village
Cutter Ownership
Anchorage for SE, NW Season
Helipad
Airstrip
Air Route
MAIN ROAD
Existing
Proposed
TRACTOR TRAIL
Existing
Proposed
Proposed Transinsular 1957 – 63
Tenavutu
Honiara
Reko
Aola
as of 23 February, 1973
Weather
Coast
Wanderer Bay
Chapana
Kologona
Marubo
Marasa
Babanakira
Chikora
NW
Duidui
Kuma
Sughu
Calm Weather
Sauri
Haimarao
SE
Makaruka
Sukiki
NW
Sanggasere
NW
Waimaea
Marau
Paruru
Marau Sound
9°30′
10°00′S
160°00′E
160°30′
0
10
miles
kilometers
0
16
Base: Depts. of Geological Surveys and Lands & Surveys 1:150,000
Data Sources: BSIP (1971); Central District Files; Field Observations

Figure 6.4

The Problem of Transport

Both the agricultural history of the Weather Coast, and the activities of the Agriculture Department in promoting cash cropping suggest that one, if not the major problem of the area is its general inaccessibility. In other words, progress may to some extent depend on the provision of better and more reliable links with Honiara. The present network provides more of a filter than a flow of produce to that important market, since only a relatively small proportion survives the journey.

Prior to World War II, travel within the Protectorate was either by sea or by footpath. During the war, a network of roads and airfields was established along the northern coast of Guadalcanal and the existence of this infrastructure was one of the reasons for establishing the new Protectorate capital at Honiara. The necessity to repair these roads was the impetus in 1950 for establishing "a programme of road and bridge construction...on Guadalcanal." (BSIP, 1966:2). The stated road policy in the Solomon Islands is that "there must be an economic or overriding administrative justification for a road before construction begins." (BSIP, 1966:1)

The people of the Weather Coast at the end of the war, were limited to travel on foot or by ship. In 1948, the Weather Coast, that is the stretch between Marau and Inakona, was described as having a "goodish bridle path." (BSIP, 1948:2).

Shipping services were, and are, hampered to a great extent by the natural physical characteristics of the coast. There is no protective reef development throughout the length of the coast, except at Marau Sound, and there are just seven possible anchorages (Fig. 6.4). On most of the narrow beaches the south-easterly swells "break in a dangerous manner" (BSIP, 1949b:1). Administrative visits by ship were curtailed because "there are too many drawbacks to a vessel: tides, reefs, weather, engines and worst of all, the permanent possibility of the vessel being withdrawn to satisfy requirements elsewhere in the Protectorate" (Neven-Spence, 1948-49:5). Therefore, the people of the Weather Coast were described as being "very isolated and seldom visited" (BSIP, 1949b:1).

As the coastal characteristics have inhibited travel by ship, so have they inhibited the construction of a road. In 1936, an earthquake altered the coastline between Duidui and Ghorobau, by eliminating the narrow coastal strip that had been used as a foothpath. Some time after, a new track of three miles was cleared and, in order to facilitate touring, was made along an uplifted rock that resulted from the earthquake. The impact of heavy rains on this track was described as follows:

> The seaward slope of the mountain ridge has landslided into the sea, leaving the track on the edge of a deep precipice; parts of the track, softened by incessant rain, fell away as we crept along it and it was only with great care and good fortune that we made our way to Duidui without mishap...Surplus rain waters from the steep hills were falling into the narrow coastal belt in a hundred impromptu streams, rendering parts of the coastal road a running river (Wrightson, 1951:2).

Although the development of a transportation network along the Weather Coast appeared to be a difficult and expensive enterprise in 1950, there were reasons for pursuing it.

There is an economic basis for establishing better transport facilities to and from the Weather Coast as both government and people are interested in developing commercial agricultural production. Owen (1968:1) has stated, in reference to India, that "without reliable farm-to-market transportation... it has not been possible to make the shift from subsistence farming to commercial agriculture." Mellor (1966:328) indicates that "improved marketing facilities and procedures contribute to the objectives of agricultural development directly through providing fuller use of a given level of production and indirectly by fostering increased production." In spite of the limitations imposed by inaccessibility, the government and the people have repeatedly attempted to develop cash crops. However, reports of root crops, rice, or copra rotting on the shore for lack of transport appear throughout administrative files of the post-war period. The problem of which comes first, the development of commercial agriculture, or the provision of an adequate marketing network was simply summed up by a Weather Coast resident. "If we have no transport, it will be very hard for us to get money in the market...If we do not produce, our transport cutter will have nothing in it. If we have no transport, the produce will go rotten. When we call for others, they will not help us" (Chapman, 1969: 129).

One touring officer speculated that the amount of uncollected copra on the Weather Coast "must number many hundred of tons per annum" (Layng, 1960-66:4) because of lack of transport. In an isolated Samoan village, Lockwood (1971:62) determined that "almost forty per cent of the coconuts were left to rot or seed under the palms". The effects of a road can be dramatic, as Ward (1970:40) suggests in her study of a new road between Port Moresby and Rigo. The average annual rate of increase of land devoted to root crops was 11.1% over a 10-year period and the increased production was sold in the market of Port Moresby. On the Weather Coast, the administrative reasons for road construction and the consequent assurance of a government presence have been more compelling than the economic reasons. The people in the Marau Sound area were closely associated with the Marching Rule movement that was established on Malaita in the late 1940s. Their rejection of the Guadalcanal Council in favor of the Malaita Council exhibited a disquieting degree of independence. The growth and development of the Moro Movement in the late 1950s drew government attention to the Weather Coast people. In reference to the continuing construction of the Weather Coast road, a government administrator stated that "... we must be able to bring out the copra" (BSIP-PWD, 1966:2). Other government workers spoke against the Weather Coast road on economic terms and it was indicated that "rainfall and comparative lack of use will give rise to rapid deterioration" (BSIP, 1966a). The response to this attitude was,

> 1. The feeling has been expressed that development on Guadalcanal is centered on Honiara and the north coast where expatriate communities benefit to the exclusion of other areas. In fairness, it must be admitted that the main copra producing areas are on the north coast.
>
> 2. Unrest is engendered by the "Moro Movement" which has had a stop-start effect on economic development amongst the people affected by it.
>
> 3. Statements have been made publicly from time to time indicating and confirming government's intention to improve communications in this area by providing or sponsoring road and aerodrome development.....this is a road whose building priority depends rather upon administrative, political, and social considerations than upon short-term economic potential. The latter is nevertheless not without significance and will surely grow (BSIP, 1966).

Shipping

The first attempts at improving communications with the Weather Coast were with shipping services. In 1956, the Guadalcanal Council resolved that a "market ship should visit round Guadalcanal regularly" (Jelf, 1956:1). The problem of bad weather still existed, of course, and the provision of "larger and more numerous ships" (Hunter, 1957:1) would not solve the basic problem of how to transfer goods and produce between ship and shore in hazardous seas. Nevertheless, the district administration arranged for a ship to call at anchorages along the Weather Coast to collect produce destined for the Honiara market. The first market trip was conducted from 7 - 9 May 1958 but only a small amount of produce was collected, as shown in Table 6.29.

Table 6.29

VALUE AND TYPE OF PRODUCE COLLECTED,
WEATHER COAST MARKET TRIP, 7-9 MAY 1958

Commodity	Amount	Value
Root crops	3184 pounds	$53.07
Bananas	39[a]	1.95
Limes	120	.80
Pineapple	8	.40
Fowls	1	.40
Cucumbers	6	.30
Pumpkins	2	.15
Watermelon	1	.10
Beans	1	.05
Total Value		$57.22

[a] The units of measurement were not indicated in the original source although it appears that most items were counted on an "each" or "bunch" basis.

Source: Low, 1958:2

In his evaluation of this first market trip, the District Officer felt that the small quantity of produce collected was attributable, in part, to "the bad weather of the previous 5 days, or perhaps they had been unable to harvest much of their produce on the exposed steep slopes of the Weather Coast. The fact is that no one was prepared to bring off his produce to the ship either at Inakona or Talise Anchorage...The amount brought to the beach at Talise Anchorage was not great and did not merit the running of a ship for it" (Low, 1958:2).

A second trip to collect produce was made in June, but high seas made landing impossible at all but one location. The District Commissioner indicated that "many people were left on the beach with produce which they had brought for sale" (BSIP, 1958b:5) Two subsequent market trips went to the Weather Coast, in July when produce valued at $190 was collected, and in August, a trip that met with less financial success (BSIP, 1958c:4). Even though the July market trip was more than three times more successful financially than the first trip in May and the monthly sequence was interrupted in June because of bad weather, the District Commissioner was not satisfied. He stated that "it is unfortunate that as yet the Weather Coast people produce neither the quantity nor the quality that could be handled on these occasions" (BSIP, 1958c:4). The people of Sughu also requested that the market ship stop for their market produce (GC, 1958:2), but there were no further market trips during 1958.

The market trips were reactivated in 1959 with six trips scheduled, although two trips were not made because of bad weather and the lack of a ship. Another "problem" of sorts that developed during this series of trips was the "tendency during the tour for people at most market ports to make excessive demands for passages to Honiara" (Bergelin, 1959:3). However, this was probably due to the lack of alternative means of travel to Honiara and the fact that no passage or freight charges had yet been introduced. On June trip, there were 33 passengers and on the July trip, there were 36 passengers going to Honiara. The value and type of produce carried on the 1959 market trips are summarized in Table 6.30.

The value of the produce collected had steadily increased from that first trip in May 1958 and with regularly scheduled trips, the farmers were able to process their copra. However, by October 1959, it was decided that a market ship would make

Table 6.30

VALUE AND TYPE OF PRODUCE COLLECTED,
WEATHER COAST MARKET TRIPS, 1959

Trip Number and Month	Value ($)	Copra (bags)	Pigs (each)	Fowls (each)	Sundry (ton)
1. May	160	6	3		1/4
2. June	600	40	3	17	1
3. July	640	45	6	44	1 1/4
4. August	Bad weather--no landings made				
5. September	No ship available				
6. October	700	35	11	30	1/2

Source: BSIP, 1959:4

the circuminsular trip once every two months and that there would be no more trips during that year. In 1960, there were only four market trips scheduled and on two of these trips, bad weather precluded the ship's dinghy from going ashore. On one of the trips there was no produce ready for market and on the other trip only a few pigs were collected (GC, 1961:5).

In the three-year period, 1958 through 1960, the monthly then bi-monthly market ships actually collected produce on nine occasions while on five planned trips either the ship was not available or high seas prevented collection. This irregular service coupled with bad weather eventually caused the demise of a regular market ship and the Weather Coast remained inaccessible from Honiara for the timely shipping of garden produce and cash crops.[13]

[13] The Weather Coast is not, of course, the only area of the Solomon Islands which experiences difficulties with shipping services. It was reported that "tons of copra are rotting away in Choiseul for lack of shipping and good roads" (LCD, 1965, 6/1:55). A motion was introduced to have the government establish three market trips per annum to Rennell and Bellona (LCD, 1967, 8/2:62). Other islands have had similar problems.

The Legislative Council member from Guadalcanal indicated that the people of the Weather Coast did want to sell more agricultural commodities but described it as being "difficult because there is no transport" (LCD, 1965, 6/1:52). It has been a policy since 1966 for government ships not to compete for the collection of produce and other crops with privately-owned ships (GCD, 1970:74). The all-weather anchorages of Wanderer Bay and Marau are assured of regular shipping services but the rest of the Weather Coast has no such assurance. This portion of Guadalcanal has recently been described as being "unattractive to commercial shipping because of its poor harbours and lack of cash for general trading, while the government has not recently made any serious attempt to establish reliable scheduled services for market produce" (BSIP, 1974:15).

A large proportion of ships passing via Wanderer Bay are non-governmental ships and although no Wanderer Bay residents own or operate any type of powered craft, several cutters are operated by people in the Marasa/Tina valleys. The people of these two valleys send produce to Honiara via the Marasa anchorage and have established the business and service enterprise of operating small engine-powered cutters. In Marasa, the local Anglican priest has built and operates a one ton cutter. The people of Kologona, in a cooperative effort, built and operated a one ton cutter out of Marasa. This cutter is used to transport the produce grown in the five-acre Kologona community garden. The people of Poisughu had raised $600 as of December 1972 to be applied toward the purchase of a new engine for a cutter. On one occasion, the people of several villages had raised $800 for an engine for the cutter, Geana, only to have the cutter and engine sink during a cyclone. Three factors have been responsible for this development of locally owned and operated cutters: the irregularity of government shipping; the relatively calm waters of the west coast of Guadalcanal; and the high yields of kumara in the Marasa/Tina valley enabling a surplus which can be sold in Honiara.

Roads

The difficulty of ship travel to the Weather Coast was fully realized by the administration. In early discussions, a road was seen as "an impractical consideration" (BSIP, 1949b:1) because of the physical nature of the coast. However, administrative reasons for a road were becoming more paramount and in 1957 serious consideration was given to the construction of a road. Reports in transportation files of the late 1950s and early 1960s emphasize the costs of the road and the likelihood that any economic return would be inadequate to justify the cost. The District administration, on the other hand, stressed the political and social necessity for the road. The initial alternatives were: a circuminsular road leading west from Honiara around Wanderer Bay, a circuminsular road leading east from Honiara around Marau Sound, or a transinsular road leading south from Honiara to the Malagheti district. It was finally decided that a road should commence in Marau where there was an all-weather anchorage and continue west to Kuma, a distance of 55 miles. A preliminary survey indicated that a road constructed along this route would have to pass over 47 rivers and a number of smaller streams (Layng, 1961:2). By 1963, the road work was progressing well (GC, 1963:3) and the Agriculture Department was in the process of establishing an agricultural station near Pichahila. By 1965, it appears that progress had suffered, for the High Commissioner indicated that it was hoped that construction of the Marau to Avuavu road would soon commence (LCD, 1965, 6/1:12). Again in 1968, the Acting High Commissioner stated that "a start should be made on the Weather Coast road" (LCD, 1968, 9/1:8). The Director of Public Works discussed in 1969 the problems of constructing a road on this coast but indicated that four miles of road were complete from Marau (LCD, 1969, 10/1:95). After approximately eight years of work, there were four miles of road.

By 1972, three main sections were complete: Marau to Sukiki, the Avuavu coastal area and the Kuma coastal area (Fig. 6.4) with at least one tractor operating on each portion. Once again, however, the future of the road was in some doubt for work was to end for a four-month period in April 1973 because of the road's high costs (CDN, 1973, April:2). The road was designed to connect the Weather Coast people and their produce with the Marau anchorage and shipping services were improved in 1962 with the construction of a 100-foot wharf at Manikaraku. There is now a greatly reduced chance of produce rotting due to lack of transportation, although the weather may still exert an influence by making rivers unfordable.

Some major obstacles to the road had been overcome by the time of our study, for example, the blasting of the rock outcropping near Kopiu, and more sophisticated techniques of grading were in use, so that the road is likely to remain a more permanent link than during some previous attempts. The combination of the road and Manikaraku wharf; the availability of agricultural extension services; and the government policies with regard to subsidized coconut plantings have resulted in the increasing development of coconut plantations along the road. Owen (1968:52) attempts to assess the economic and social impact of new road construction in India and suggests that "very few Indian farmers more than a mile or a mile and a half from a reasonably good road are using modern methods. Neither farm supplies nor new ideas are moving much beyond that." He concludes that a 1.5 mile area on either side of a road will be affected both economically and socially by that road, and continues with a list of the proportionate distribution of Indian villages from an all-weather road. This listing is reproduced in Table 6.31 in addition to the distribution of Weather Coast villages by district from the three sections of the Weather Coast road.

Table 6.31

PERCENTAGE DISTRIBUTION OF VILLAGES, BY DISTRICT AND BY DISTANCE, FROM AN ALL-WEATHER ROAD

DISTANCE (miles)	NUMBER OF VILLAGES									Weather Coast Villages %	India %	Weather Coast Villages Without Wanderer Bay - %
	Marau	Moli	Tete-kanji	Avu-Avu	Talise	Vatu-kulau	Dui-dui	Wanderer Bay	Total			
Within village	24	22	-	10	4	44	-	-	104	25	11	31
Up to 1.5	4	10	7	15	12	24	-	-	72	17	18	21
1.5 to 3.5	1	10	10	7	16	12	1	-	57	14	21	17
3.5 to 5.5	-	8	2	-	10	2	8	-	30	7	12	9
5.5 to 10.5	-	-	-	-	-	-	25	-	25	6	16	7
10.5 to 20	-	-	-	-	-	-	49	30	79	19	10	15
20+	-	-	-	-	-	-	-	46	46	11	8	-
unknown	-	-	-	-	-	-	-	-	-	-	5	-
Total	29	50	19	32	42	82	83	76	413	99	101	100

Source: 1972 Project Census; Owen, 1968:52

Table 6.31 shows that 42 per cent of the Weather Coast villages are within 1.5 miles of a road. This is a favorable proportion in comparison to the rest of the Solomon Islands as there are a total of 296 miles of main and feeder roads (BSIP, 1971:100) and three Weather Coast segments account for 27 miles or about 9 per cent of the total road network. The discontinuous nature of the road is also shown in Table 6.31 by the district totals. The effect of the road passing through 46 villages in Marau and Moli is different from its effect in passing through 44 villages in Vatukulau, since the former terminates at the Manikaraku wharf and the all-weather anchorage of Marau Sound, whereas the Vatukulau section is discrete and its economic effects will be minimal until it is connected with other parts of the road. The general results, therefore, of the three road segments are: to increase the internal accessibility of people in Marau, Moli, Avuavu, Talise and Vatukulau; and to increase the external accessibility of Marau and Moli with Honiara while Avuavu, Talise and Vatukulau remain externally inaccessible.

Airstrips

In addition to the integration of the Weather Coast road with shipping services, it was also planned to establish airstrips along the Weather Coast in conjunction with the road. Sites were selected in 1964 and construction was the responsibility of the Guadalcanal Council. The Avuavu airstrip commenced operation in 1966, the Marau airstrip followed in 1967, and most recently, Babanakira airstrip was opened in 1973. All three are served by a private commercial firm which operates with six or ten seat aircraft.

The network of linkages with Honiara at the time of our study included shipping services, the Weather Coast road, and aircraft. The coast is most rugged at the western end of the Weather Coast where little track or road construction has been undertaken, except for the recent construction of a tractor track

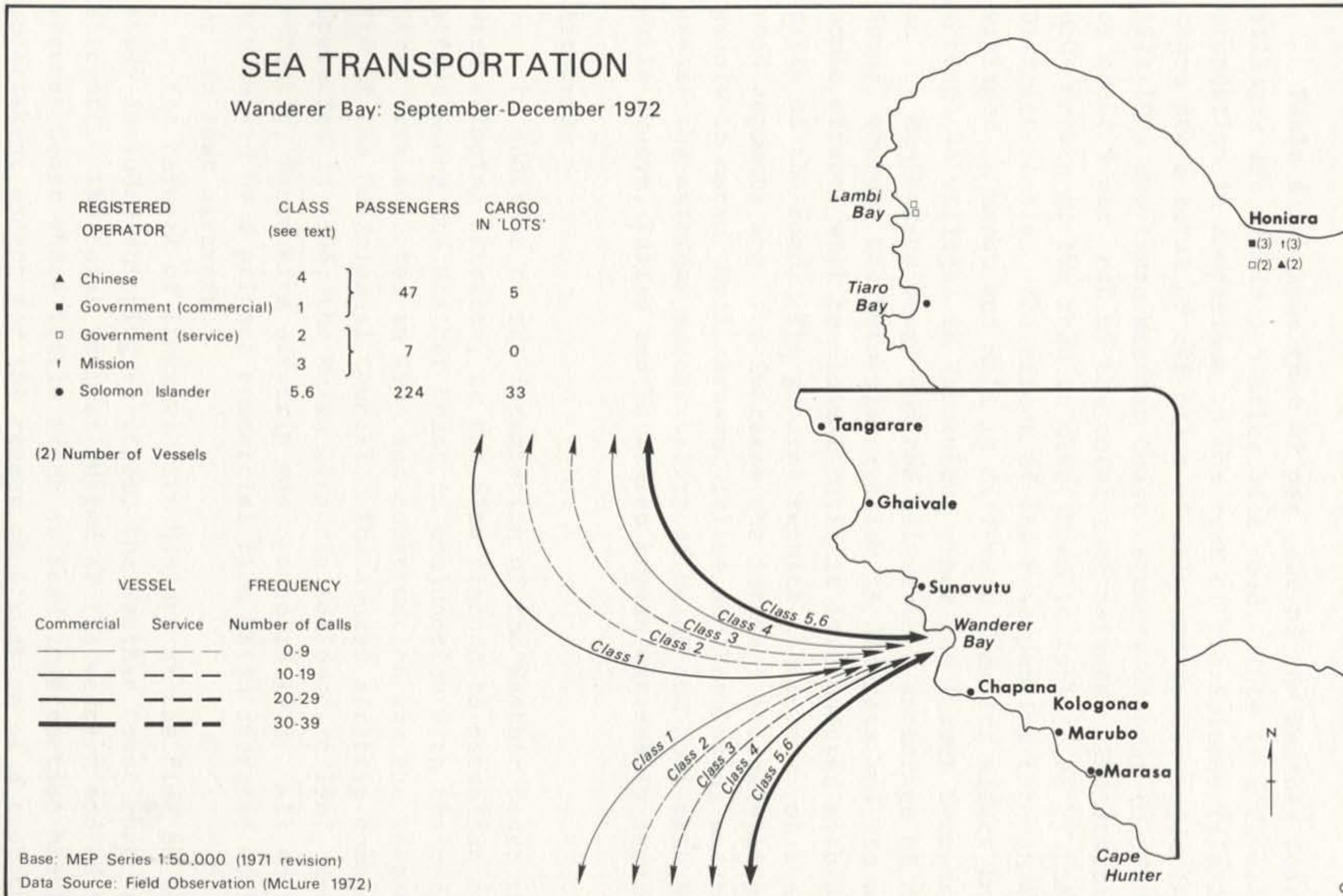

SEA TRANSPORTATION
Wanderer Bay: September-December 1972
REGISTERED OPERATOR
CLASS (see text)
PASSENGERS
CARGO IN 'LOTS'
▲ Chinese 4
■ Government (commercial) 1
47 5
□ Government (service) 2
† Mission 3
7 0
● Solomon Islander 5.6 224 33
(2) Number of Vessels
VESSEL
FREQUENCY
Commercial
Service
Number of Calls
0-9
10-19
20-29
30-39
Base: MEP Series 1:50,000 (1971 revision)
Data Source: Field Observation (McLure 1972)
Lambi Bay
Tiaro Bay
Honiara
■(3) †(3)
□(2) ▲(2)
Tangarare
Ghaivale
Sunavutu
Wanderer Bay
Chapana
Kologona
Marubo
Marasa
Cape Hunter
Class 1
Class 2
Class 3
Class 4
Class 5.6
N

Figure 6.5

over relatively flat terrain, from the Babanakira airstrip to Marasa by the people of the Tina River valley. Since there has been little road construction and the shipment of copra or root crops via plane is not economically feasible, the people of the western part of the Weather Coast remain dependent upon shipping services. During the period of this study, data was collected at the Sughu site about the economic aspects of shipping services operating out of and through Wanderer Bay. The results of this study are presented in the following section.

Economic Aspects of Sea Transportation of Wanderer Bay

Wanderer Bay, with its all-weather anchorage, is not representative of the south coast of Guadalcanal. However, if it can be shown that the economic development of Wanderer Bay is not being limited by a lack of dependable shipping there maybe implications for the rest of the Weather Coast. Conversely, if the economy of Wanderer Bay is not significantly more developed than other parts of the Weather Coast, this would imply that problems of shipping services are not the most important factor but only one of the necessary factors in rural development. The lack of dependable sea transportation capable of carrying produce as well as cash crops to the Honiara market inexpensively has been cited as one of the factors inhibiting the growth of a cash economy.

The arrival of all powered canoes, boats, and ships at Wanderer Bay was recorded for the period 26 September to 23 December 1972 (Fig. 6.5). Since there is no airstrip or road for powered vehicles in the area, air and land transportation were assumed to have no economic significance to the people of the Wanderer Bay area, and there were no arrivals of anything but seacraft during this period. Table 6.32 lists the frequency of ship arrivals by type of vessel, month, and direction of travel upon departure from Wanderer Bay.

Table 6.32

BOATS/SHIPS CALLING AT WANDERER BAY--26 SEPTEMBER-23 DECEMBER 1972 CLASSIFIED BY MONTH, DIRECTION OF TRAVEL UPON DEPARTURE FROM WANDERER BAY AND BY TYPE OF BOAT/SHIP

	Sept. 26-30		Oct.		Nov.		Dec. 1-23		Total 89 days	
	N[a]	S[b]	N	S	N	S	N	S	N	S
Mary	1	1	1	1	2	2	2	2	6	6
Leili			1	1	3	2	1		5	3
Langalau					1				1	
Tevai	1		1	1	1	1	2	2	5	4
Takata						1				1
Talise								1		1
ACl							1		1	
Malatumi				1	1		1		2	1
Baddeley						1				1
Southern Cross							1		1	
Mary Teresa				1	2	3	2	4	4	8
Joyce							1	2	1	2
Eftu			3		5	3			8	3
St. Josepo	1		2	4	1	1	6	1	10	5
Beata							1		1	
Sesianda						3		1		4
Kologona				1						1
Tatasi				2	1				1	2
Lazerus			2	3	1	2	1		4	5
Vunaghasali		1	3	3	1	6	1	4	5	14
Kokovuna					1	1	3		4	1
	3	2	13	17	20	26	23	17	59	62
	Sept. (5 days)		Oct.		Nov.		Dec. (23 days)			

SUMMARIZED BY CLASS OF SHIP[c]

	Sept. 26-30		Oct.		Nov.		Dec. 1-23		Total 89 days	
	N	S	N	S	N	S	N	S	N	S
Class 1	1	1	2	2	6	4	3	2	12	9
Class 2	1	0	1	1	1	2	3	3	6	6
Class 3	0	0	0	1	1	1	2	0	3	2
Class 4	0	0	0	1	2	3	3	6	5	10
Class 5	1	0	5	3	6	4	7	1	19	8
Class 6	0	1	5	9	4	12	5	5	14	27
	3	2	13	17	20	26	23	17	59 + 62 = 121	
Number of days with no boat traffic	3		12		3		6		24	

[a]N = Going North on departure from Wanderer bay

[b]S = Going South on departure from Wanderer Bay

[c]Class 1 = 3 - 60'-70' government ships (Mary, Leili, Langalau)

Class 2 = 3 - government T-class boats (Tevai, Takata, Talise) and 1 20' fiberglass with outboard (ACl)

Class 3 = 3 - 50'80' mission ships (Malatumi, Baddeley, Southern Cross)

Class 4 = 2 - 40'50' Chinese trading ships (Mary Teresa, Joyce)

Class 5 = 3 - Private Cutters--T-class size (Eftu, St. Josepo, Beata)--30'

Class 6 = 6 - 22'25' dugouts with plank sides, inboard diesel engines (Sesianda, Kologhona, Tatasi, Lazarus, Vunaghasali, Kokovuna)

Source: Field notes

Twenty-one different vessels called during the period, some making only one visit while others came several times and one visited 19 times. These 21 vessels were readily grouped into six different classes based on a combination of ownership and size of the boat.

The various classes chosen reflect several things. Class 1 ships operated by the government had the most structured schedule and fares, would take almost any cargo, and had the largest capacity of any of the ships actively engaged in commercial transport. Class 2 ships made calls strictly for government business and had essentially no commercial impact upon the area. They could, in rare cases, be convinced to take a passenger or two but they were not engaged in commerce as such. Their value as a means of communication or as emergency transport was not investigated at this time.

Class 3, the large mission ships, were also primarily non-commerical. Their basic purpose was to support the missions and mission-related activities, for example, carrying children to school, visiting Bishops, or transporting local people to conferences. These ships did, however, occasionally carry paying passengers and cargo. Class 4 ships were engaged in the commercial transport of passengers and cargo while also purchasing copra. They also had a fare structure and one of them had a fairly dependable weekly schedule for most of November and December. Class 5 and 6 boats were the locally-owned and operated small cutters (less than 30') and dugouts. They did not generally operate on any set schedule. Their fares and freight rates were lower, they were slower, and their capacities were smaller (approximately one ton for the Class 6 dugouts and two to three tons for the small Class 5 cutters than the larger ships).

One of these, the St. Josepo is owned by Tangarare Roman Catholic Mission but is used more like a private cutter than a mission ship and most of the operating decisions are made by the bosun.

Table 6.32 shows that during the 89 days of the survey, there were a total of 121 boat arrivals at Wanderer Bay, which are presented according to the direction of the next destination of the boat upon leaving. These 121 boat arrivals give an average of four arrivals every three days. If we exclude the Class 2 and 3 ships, due to their non-economic status, we are left with 104 commerical boat arrivals. If Classes 1 and 4, the Honiara-based Government ships and Chinese trading ships, are combined, it can be seen that they contribute 36 arrivals to the total (Table 6.33). Of these, 17 are departures to the north and all had a destination of Honiara within 24 hours of their departure from Wanderer Bay. This gives an average of one large commercial ship going from Wanderer Bay to Honiara every five days.

Table 6.33

A SUMMATION OF BOATS AND SHIPS CALLING AT WANDERER BAY

	N[a]	S[a]	Total[a]	Passenger[b]	Cargo
Class 1 & 4--"Commercial Big Ships"	17	19	36	47	5
Class 5 & 6--"Local, commercial small boats"	33	35	68	224	33
Class 2 & 3--"Non-commercial ships, boats and canoe"	9	8	17	7	0
Total	59	62	121	278	38

[a] These figures are comparable to those in Table 6.32 Boat departures only.

[b] Passengers--each time one person boarded or disembarked in Wanderer Bay.

[c] Cargo--each lot of cargo that got on or off in Wanderer Bay, for example, it could be a dugout's engine, 10 baskets of food, or a pig. All the cargo belonging to one person counted as one lot only.

Source: Field notes.

However, the average conceals the two two-week period with no arrivals of this type in October, and also the periods in November-December when there were sometimes three or four in one week.

The last group of boats is the one made up of Classes 5 and 6. These three small cutters and six dugouts accounted for 68 arrivals or 54 per cent of the boat traffic in Wanderer Bay. With the exception of one of the cutters, which made one visit from its home port near Lambi Bay, all of these boats were owned by people living between Marasa and Tangarare Roman Catholic Mission although none have Wanderer Bay as a home port. These locally owned cutters and dugouts provided the primary source of commercial transportation for the people on the southwest side of Guadalcanal (Table 6.32). Most of their traffice was between Cape Hunter and Tangarare Roman Catholic Mission. They seldom, if ever, went south of Cape Hunter, but they did make at least 15 trips to Honiara during the period of observation (Fig. 6.5).

It might be expected that the people would favor the Class 1 and 4, large commercial ships, since they are faster, have a greater capacity than the smaller boats, maintain some sort of regular schedule, and are capable of going south to the Weather Coast rather than being confined by the rough seas, or fear of them, as are the smaller (Class 5 and 6) local commercial boats. However, the factors in favor of the local boats outweigh these apparent advantages. Probably most important is the fact that they are local boats owned and operated by "one-talks". When asked to give a reason, however, the people usually say that they take the local boats because they are less expensive. These two factors combined with the fact that these boats come more frequently and provide intra-area transport as well as a degree of service-on-demand, serve to give them most of the traffic.

The apparent advantages of the larger ships seem to be less important to Wanderer Bay area people. Speed, meaning that the trip to Honiara is three to four hours faster, is of no great import. There is very little economic reason for the Wanderer Bay people to ever care to go further south than Cape Hunter. Size, as it relates to cargo or passenger carrying capacity, was of no apparent advantage. There were never so many people or so much cargo wanting to go in the same direction at the same time that they could not all be carried on the smaller boats. Size, as it affects the ability of shipping to be maintained in rough seas is another matter, and though it made no difference during the period of observation, this is not always the case.

Earlier it was mentioned that the local boats had a price advantage over the larger ships. Our comparisons will all be based upon fares and freight rates between Honiara and the Wanderer Bay area since this is the economically significant[14] trip. Intra-area travel by boat was almost always for non-economic reasons, and the amount of travel for economic reasons to destinations other than Honiara was negligible. The passenger fares for deck passage on the Class 1 and 4 ships were $A2 between Wanderer Bay and Honiara, and $A4 between points south of Wanderer Bay and Honiara. Freight charges for a pig or a copra sack full of copra or root crops (100-150 lbs.) were $.50 - $.60, depending on size, between Wanderer Bay and Honiara and more for trips further down the Weather Coast. The local boats had varied fares, with most charging $1 - $1.50 between Wanderer Bay and Honiara. From villages between Wanderer Bay and Marasa, the fare to Honiara was usually $1.50 - $2.00 as opposed to $4 for the ships. The freight rates for root crops were nominally $.20 - $.30 per basket (45 lbs.) or the equivalent of between $.50 and $.80 per copra sackful. However, persons going to market with several bags of crops were not usually charged both the

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[14] Economically significant or "economic" reasons for travel would be to sell produce, buy supplies for a store or for personal use, go to or return from wage employment, etc.

full passenger fare and freight. There was a great deal of flexibility in these transactions and favorable rates were given to people from the bosun's or owner's own village. Sometimes people were carried without charge on short, local trips. The total effect appeared to be a substantial savings over the larger ships' rates, particularly for the people from south of Wanderer Bay.

An opportunity arises here to present some information on operating income and receipts collected in an interview with the owner of one of the local dugouts. This man had been operating motorized dugouts since 1954. At the time of the survey, he owned one powered by a diesel engine which had cost $674. The owner hired a bosun at $10 per month and one crewman at $6 per month. After paying an annual license fee of $12, the salaries of the bosun and crewman and any other operating expenses, the owner was left with the following net receipts for a seven-month period:

1972 -	March	$21	July	$18
	April	41	August	--
	May	58	September	30
	June	6	TOTAL	$174 for 7 months

The boat was not launched until mid-February, the end of the cyclone season. In July, someone had stolen some of the receipts before the owner received them and in August, he was using the boat himself. It was still operating in mid-December 1972, but he planned to take the boat in during January and February, the period of bad weather and rough seas.

Returning to the figures given for the commercial ships and small boats (Classes 1, 4, 5, 6), there were 104 departures from Wanderer Bay. Of these, 32 trips were made to Honiara for an average of over 2 trips per week during the period under observation. None of the large ships was filled to capacity on these trips, and though most of the small ones were, it is simply due to the fact that they usually would not leave until they had found enough passengers and cargo to fill the boat. Had there been more demand for transportation to Honiara, it could easily have been satisfied by the available stock of ships and boats. Although low prices had reduced the local production of copra, thus decreasing the demand for transport, this effect is difficult to estimate. It is doubtful, however, that copra would have filled all of the boats even had it been produced at its previous higher levels. Therefore, during the period of observation, the cargo capacity of ships operating between Honiara and Wanderer Bay was more than adequate[15] and though it did not generally operate on a dependable schedule, it was relatively frequent.

Before summarizing, it is necessary to emphasize two points. The first is the fact that this study lasted only three months during the drier, good-weather season. Nothing at all may be concluded about the transportation situation during the rest of the year. During rough seas, the dugouts are drawn up on the shore and stay there. The small cutters stay in the protected bays and the big ships, though they can often travel in the open sea, cannot safely land anywhere along the Weather Coast except Wanderer Bay or Marau Sound. If the weather and seas are bad during much of the rest of the year, this would have the effect of minimizing the availability of sea transportation on the Weather Coast and in the Wanderer Bay area.

During the period of observation, there were no commercial cutters or dugouts operating along the rest of the Weather Coast, while there were eight between Marasa and Tangarare. The rest

[15] This is consistent with the conclusion reached by the Committee on Food Supplies when they stated that "there is a surplus inward transport capacity by land and sea" (BSIP, 1974:5).

of the Weather Coast had to rely on the Government and Chinese-owned ships. Compared with the local boats, these came infrequently to Wanderer Bay and even when they proceeded along the Weather Coast, could not always land where or when they wanted.

As shown by Table 6.33 the Class 1 and 4 ships were of much less importance to Wanderer Bay than were the Class 5 and 6. However, the former were all that were available to the Weather Coast southeast of Cape Hunter. As measured by departures to Honiara, probably the most economically important classification of departure, the people of Wanderer Bay were at least twice as well off as those living further along the Weather Coast. The availability of year-round shipping services at Wanderer Bay has not resuleted in the full commercialization of agriculture within the villages in the Wanderer Bay district. However, more than half (52 per cent) of the households in that district do cultivate and sell the produce they know best, that is root crops, and the percentage of householders growing crops for sale (84 per cent) is greater than for any other Weather Coast district. The all-weather anchorage is not integrated into a transport network on the ground as at Marau Sound, nor were agricultural extension services available at Wanderer Bay. Owen's (1968) point about a road effecting the areas within 1.5 miles of it suggests that the availability of regular shipping services will have only a limited impact upon an area if no other economic infrastructure or services support it. This may explain the events that have occurred in the Marasa area, where several cutters are operated by the people of the Marasa/Tina river valleys. These may not have been as profitable as the people had hoped so once the people learned construction skills from their work on the Babanakira airstrip and had access to a tractor they began to cut a track along the Marasa river to Marasa Bay. This will have the effect of opening up the agricultural lands of the Marasa/Tina river valleys to the coastal cutters. In short, the people have attempted to create a transportation network.

The central part of the Weather Coast is not served by road, aircraft or regular shipping. Another study was conducted in the Koloula valley in order to gain some insight into the attitudes and knowledge of the people regarding shipping services, irregular as they may be. Questions were asked to try and determine the extent of knowledge of shipping to the Koloula valley area (Table 6.34).

The best known ship was the government-owned M.V. Mary that made regularly scheduled trips to the Weather Coast during the research period. These trips were on a weekly basis, however, each week the M.V. Mary sailed around one side of the island to Talise and then returned to Honiara. Thus, each side of Guadalcanal only received one trip every two weeks, except where the trips overlapped near Talise Anchorage.

Only two persons professed no knowledge of any boats or their activities while all the other persons (97 per cent) knew of the M.V. Mary. When it came to specific questions, such as when the boat came and what the freight costs were, there was less knowledge. The bi-weekly schedule of the ship was known to 72 per cent of the people although 23 per cent said it was a weekly trip. This latter response is due to the Talise Anchorage overlap area where the ship reverses course. Therefore, only five percent of the people did not know the ship's schedule. Most of the people (80 per cent) knew the approximate cost of freight charges for a bag of kumara or copra.

The second most well-known ship was the M.V. Mary Teresa, a privately-owned vessel that began regular weekly operations during the research period. Of the inland populace, 33 per cent were able to name this vessel as compared to 94 per cent of the coastal people. Of those who knew of the M.V. Mary Teresa, 40 per cent of the inland people and 94 per cent of the coastal people knew the scheduled arrival times. When asked about freight rates, most professed no knowledge and those who did respond, indicated the same freight charges as they had attributed to the M.V. Mary.

Table 6.34

KNOWLEDGE OF SHIPPING SERVICES, KOLOULA VALLEY, NOVEMBER, 1972

Question		Inland		Coastal		Total	
		No.	%	No.	%	No.	%
1. What boats come to take crops to market?							
	Total	46		17		63	
	Mary	44	96	17	100	61	97
	Mary Teresa	15	33	16	94	31	49
	Other	5	11	5	29	10	16
2. How often do these boats come?							
	Mary--total	44		17		61	
	weekly	5	11	9	53	14	23
	bi-weekly	36	82	8	47	44	72
	monthly	1	2	-		1	2
	no response	2	5	-		2	3
	Mary Teresa--total	15		16		31	
	8 times/week	1	7	1	6	2	6
	weekly	6	40	15	94	21	68
	bi-weekly	7	47	-		7	23
	monthly	1	7	-		1	3
	Other--total	5		5		10	
	no response	5	100	5	100	10	100
3. What is the cost of freight?							
	Mary--total	44		17		61	
	$.50	36	82	1	6	37	60
	$.60	4	9	8	47	12	20
	other	1	2	2	12	3	5
	no response	3	7	6	35	9	15
	Mary Teresa--total	15		16		31	
	$.50	8	53	-		8	26
	$.60	2	14	4	25	6	19
	other	-		-		-	
	no response	5	33	12	75	17	55
	Other--total	5		5		10	
	no response	5	100	5	100	10	100
4. Are crops picked up for market often enough?							
	Yes	43	93	17	100	60	95
	No	3	7	-		3	5

Source: Field notes

Only 16 per cent of the people could name other boats that had visited the Weather Coast. Times of arrivals and freight rates were not known as these ships would make unscheduled visits and rarely stop.

In general, those persons living on or near the coast were much more familiar with the vessels that did come and with their schedules, as might be expected. One factor influencing the knowledge of ships could be the frequency with which these persons were in need of shipping services. A comment often made by the inland people in response to these questions was, "I never send anything on it, why should I know?" Coastal people, on the other hand, rarely reflected this attitude even when they themselves did not use the ships.

There appeared to be a decided lack of interest in shipping. The great majority of those interviewed (95 per cent) said they saw no reason for more ships to come to the Weather Coast, the most frequent reason being the lack of produce to ship out on boats already available. A frequent reaction of the inland people was the feeling that they would use the ships if they had any produce, but since no one came to show them how to grow crops suitable for their inland areas, they consequently had nothing to send. They knew that they couldn't raise coconuts but expressed interest in citrus and vegetables that could be grown for both their own consumption and the Honiara market.

The results of this survey indicate that people of the Koloula valley, particularly in the inland areas, are not participating in a market-oriented economy. This is confirmed by the fact that only six per cent of the households in the Vatukulau district grow crops for sale, while governmental efforts to identify a cash crop suitable for cultivation in the inland areas have been unsuccessful. During the period 1970-1973, some of these people were able to work for the Utah Mining Company at their exploratory drilling site at Chikora. The opportunity to earn wages in the area has limited their seeking an income from agriculture sources.

The Weather Coast road has been at least partially responsible for the level of participation by Marau (27 per cent), Avuavu (19 per cent) and Moli (13 per cent) households in the coconut subsidy program. Additionally, farmers along the road are involving themselves in cattle raising projects and their access to a road has facilitated their receipt of cattle through the Department of Agriculture. The only vehicles initially operating along the road were owned by the government and an expatriate plantation owner. Subsequently, an individual Solomon Islander and a Solomon Islander directed cooperative enterprise have also purchased vehicles for use along the road.[16] The 34 households of the Hatare area own a total of 12 bicycles whereas no household in Aona, Ghauvalisi, or Sughu owns a bicycle. There were 60 men employed in 1972 as road workers who received a monthly wage. This monthly injection of cash into the area assisted in the establishment of a monthly market place at Manikaraku and helped to maintain several trade stores.

There were two scheduled flights per week operating through the Marau airstrip at the time of the study. The air fare between Marau and Honiara was $9.80 compared to a $2 fare by ship. The differences in fares is great enough that Solomon Islanders living in Marau would travel to Honiara via ship rather than by air. The air service was used by government officials, both Solomon Islanders and expatriates, visitors to the Makina Roman Catholic Mission, and tourists visiting the holiday cottage on Tavanipupu island in Marau Sound. During the period 26 September 1972 to 2 January 1973, 28 flights operated through Marau. A total of 37 passengers disembarked at Marau of whom 27 were tourists, seven were government officials, and three were church

[16] There were a total of seven motor vehicles in use along the Weather Coast road at the time of the survey: four tractors, one Datsun pick-up, one Landrover and one World War II vintage American jeep.

officials. The survey period included the Christmas and New Year holidays thus accounting for the high number of visitors. The availability of the air service enabled government officials to visit the government station at Manikaraku and minimize travel time. Most of these visiting administrators then travelled by Landrover to Balo and continued on foot to Avuavu or, in some cases, returned to Honiara by sea. No one both disembarked and embarked the aircraft from Marau. However, a V.S.O. who had assisted in the construction of the Avuavu airstrip noted that the presence of the airstrip had actually reduced the contact between administrators and local residents. He indicated that before the airstrip, "a few officers visited many villages on foot, (but) now many officers travel by air and seldom leave the airstrip" (Feachem, 1971:21). It is likely that the twice-weekly service from Honiara to both Avuavu and Marau, taken in conjunction with the Marau to Balo/Sukiki road, has facilitated the triangular traffic of officials between Honiara-Marau-Avuavu-Honiara.[17] There was only one occasion when a local resident shipped any cargo to Honiara via the plane: One woman arranged for the shipment of a piece of cooked pig to her son in Honiara for $.55.

That the transportation network is more fully developed at the eastern end of the Weather Coast, is reflected in the rate of participation in commercial agriculture by the Marau (70 per cent), Moli (40 per cent), and Tetekanji (73 per cent) districts.

Transport and Cash Cropping

The specter of agriculture crops rotting on the shores of the Weather Coast for want of transport is, of course, a great

[17] This route was followed by the High Commissioner, Mr. Luddington, who, on visiting the Weather Coast, took a ship to Marau, walked to Avuavu and flew to Honiara (BSIP, 1974c:3).

inhibitor to the agricultural development of that region or any other region where no transportation to market is available. In assessing the economic viability of a shipping service or a road, the controlling authority, either a government department or a private business, wants to be assured that the costs involved will be met by a sufficient quantity of produce exported. This necessitates the prior development of a sufficient excess production of root crops or coconut plantation or other cash crop. The farmer, on the other hand, wants to be assured that before he invests labor and capital in a cash crop there will be a way of profitably selling his crop. Since neither condition can be fully satisfied, the Weather Coast has seen its agricultural development and transportation services move in a pattern of stops and starts, as exemplified by the market ship experiments in 1958-1960.

The protected anchorages at Wanderer Bay and Marau provide an interesting comparison of different transportation systems. Wanderer Bay is visited by many ships and cutters on a regular basis. Agricultural development at Wanderer Bay, however, has been limited to the immediate environs of the Bay because of topographical constraints and the lack of a supporting ground-based transport system. At Marau, however, there is the availability of year-round shipping services in addition to the road leading to the Manikaraku wharf. Moreover, there are vehicles available to transport produce to the wharf and the agricultural extension staff has assisted in the development of coconut plantings, cattle projects, and other minor crops. As the new coconut plantations come to bearing age, there should be an increasing use of the road, tractors, and ships for the marketing of copra as well as other crops.

The availability of regular shipping services is only one facet of agricultural development along the Weather Coast. As the study of shipping in Wanderer Bay showed, there is an excess availability of cargo space on ships and cutters travelling to

Honiara. This point is further confirmed by the report, Food and Self-Reliance (BSIP, 1974). As the Marau example suggests, there is also the need for an integrated system including ground transportation, agricultural extension services, and, of course, suitable land for cash crop development.

Internal Exchange: Trading and Markets

The economy of the British Solomon Islands has been described (Smith, 1972) as being small in scale with a high import content and little internal exchange. Melanesian communities, populated as they are by subsistence agriculturists, are self-sufficient, which results in a low level of economic activity. The Honiara market does provide a source of cash to Solomon Islanders but is specific to Honiara and does not represent a national trend. However, while the field research supports that the economy of the Solomon Islands is small as befits a small, rural country, it does not support the assertion that there is little internal exchange.

Brookfield and Hart (1971:316-21) indicate that reciprocal transfers of goods did occur and continue to occur throughout most of Melanesia. They differentiate these transfers by types of goods traded and define them as ubiquitous goods or scarce goods. Ubiquitous goods are generally vegetable foodstuffs, are exchanged over short distances, and are used mainly to reinforce interpersonal relationships. Scarce goods can be divided into mineral products, such as salt, mineral dyes, and stone-axe blades, and manufactured items, such as wooden bowls, pottery, and woven baskets, which would be traded over longer distances.

A form of currency, known as shell-money, was used in the Solomon Islands for a variety of purposes, including the purchase of foodstuffs and canoes, the payment of fees and fines (not Government-imposed fees and fines), the bride price payment, and as a redemptive offering to ghosts (Ivens, 1927:391).

Malaita was apparently a center of shell-money manufacture[18] with a number of different varieties produced within the island (Ivens, 1930:276). Shell-money was made from the shells of the white mollusc, black mussell, and red-lipped Spondylus (Hogbin, 1939:61). The major center for manufacture was the Langalanga lagoon area although Auki, Alite (Woodford, 1908:81), San Cristobal, and Marau Sound (Belshaw, 1950:173) are also reported as being sources of shell-money. The shells themselves were articles of trade and came from San Cristobal, Marau Sound (Belshaw, 1950:174), Tarapaina, Manaoba island, and Florida island (Bartle, 1952:379). Additionally, Kopiu, located on the southeastern coast of Guadalcanal, was a "source of the stone from which the [shell making] tools are made. Malaita natives apparently have the right to search for and remove this stone" (Grass, 1945b:1). Prior to World War II, the Langalanga people would travel long distances in their canoes using their newly manufactured shell-money to exchange for vegetables and pigs. These exchanges were necessary because of their limited access to land as the Langalanga people live on artificially built islets within the lagoon reefs. The Langalanga shell-money manufacture had ceased by 1950 (Belshaw, 1950:178) although within a few years, in 1966, the people were once again producing shell-money (Cooper, 1971:1). Although Australian currency has supplanted many of the traditional uses of shell-money and the presence of the central government with its pacifying influences has eliminated other traditional uses, one major function remaining is its use as the bride price payment.[19]

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[18] An alternative point of view as to the derivation of shell-money making is provided by Moro, a Weather Coast leader, who "insisted that the Malaitan specialists who manufacture and trade these currencies to other islands got the idea in the first place from Isatabu (Guadalcanal)" (Davenport and Coker, 1967:160).

[19] As an example of its importance at the Makina Catholic mission station, the priest will not marry a couple in the church until he has been assured that at least a portion of the bride price has gone from the male to the female's family.

There remains a preference by Solomon Islanders for these traditional currencies as evidenced by a statement given by a Malaita man. "Shillings are quickly gone--we buy tobacco, sugar, tea, and there will be nothing left. But dolphin teeth I will keep, and when I have enough, I can buy a pig" (Maranda, 197:6).

A trading relationship has existed between Malaita and Guadalcanal with pigs and tobacco from Guadalcanal being exchanged for Malaita's shell money. One of the main trading areas of the Langalanga people was the Kaoka Bay area of Guadalcanal, where pigs and vegetables were obtained in return for shell-money (Hogbin, 1964:47-50). Kaoka grown tobacco was traded to the people of San Cristobal for the porpoise teeth. A portion of the shell-money and porpoise teeth was subsequently traded for wooden bowls, wicker shields, large canoes, and clamshell and turtleshell ornaments with other Guadalcanal people. A primary source for the large canoes was Marau Sound although it appears to have been a somewhat erratic source. In 1941, it was indicated that the coastal people of Guadalcanal obtained many of their canoes from Gela and Isabel (BSIP, 1941:3). By 1944, however, the "Marau people had resumed building canoes" (BSIP, 1944:3). Hogbin (1964:51) also identifies coastal Guadalcanal as the source of shell-money, porpoise teeth, coconuts, lime, and salt,[20] which were traded to the inland people for tobacco, dogs' teeth, carved wooden food bowls, and woven-wicker shields.

Although information on trading relations within the Solomon Islands is fragmentary and incomplete there appear to have been counterparts to these relationships throughout the group.[21]

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[20] McArthur (1974:43-5) suggests that care be taken before placing undue emphasis on the place of salt in trading relationships. She indicates that many New Guineans have adapted to minimal sodium intakes and that the burning of vegetable materials will result in an ash high in potassium salt.

[21] For complete discussion of a region of Melanesian Trade, see: Hughes, 1973:97-126. See also Russell (1948:319); Russell (1950:13); Scheffler, (1965:26); Keesing,(1967:91).

On north Guadalcanal, yams were traded by coastal people for wooden bowls carved by inland people. The Valasi people, an inland Guadalcanal group, traded for fish and coconuts. Yams were exchanged for shell-money between two yam-growing areas in preparation for a major feast. On the Weather Coast, yams were traded inland for pigs, opossums, and dogs' teeth (Keesing, 1967:91). Bennett (1974:40) identified some other trading relationships along the Weather Coast: the inland Bota people travelled to the coast for their salt, in the form of sea water, which they carried back in bamboo tubes; the inland Koloula people traded large trees for canoe construction and <u>taumana</u> (<u>Dioscorea bulbifera</u>) to the Malagheti people for coconuts and fish: and the Koo people sought the white bait herring available through the Viso-Pite people.

It is apparent that trade was based on the economic precept of comparative advantage, with a major feature being the use of known trading "partners", as described by Malinowski (1922) for the <u>Kula</u>.

The people of Marau used to make large war canoes, carve wooden food bowls, produce shell-money, and collect gold-lipped pearl shells. The latter are used to cut the yam into appropriate pieces for planting. These items were traded along the Weather Coast and to the northwest coast up toward Rere. The pearl shells, or <u>kove</u>, also came from Gela and Isabel and traditionally four <u>kove</u> were equivalent to one forearm length of shell-money (Tedder and Tedder, 1974:28). This trade has been reduced in the post-war period because the people are spending more time cultivating coconuts in order to earn cash rather than making their traditional trading items. However, several men do make and sell small fishing canoes, the gold-lipped pearl shell is still exchanged along the coast, and fish hooks are made for bonito and mackerel fishing.

Basic exchange of fish for root crops between coastal and inland people does occur with modifications at various Weather

Coast locales and is somewhat institutionalized into a marketplace setting. In 1940, it was reported that "the custom of holding markets has for a long time been in abeyance and a revival has been started in order to promote the interchange of such things as fish and coconuts for native vegetables and to increase the circulation of money (BSIP, 1940:5). That the existence of local marketplaces on Guadalcanal was piecemeal in 1953 is suggested by the following, which apparently refer to separate areas:

> There are no regular markets between Bush and Saltwater peoples with the result that the Bushman's diet lacks variety. I think every effort and a proportionate amount of money should be allotted by the Island Council to operating farms in the Island and ensuring the marketing of their products (Wrightson, 1953:1).

and

> The bush villages of Guadalcanal are by repute the best fed in the whole island. There was every evidence in Paripao that the native taro gardens were yielding very well...A fortnightly market of foods is held between Bush and Saltwater people near the village of Paripao. Fish is, therefore, a common nutrient in the Bush areas (Wrightson, 1953a:1).

In the upper reaches of the Koloula valley a wild yam, Taumana, grows and is harvested primarily during the months of January, February, and March. The yam is valued for its cooling ability on hot days (in Ghauvalisi, this yam is identified as vuvu and is referred to in Pidgin English as custom ice cream). A local market is held three or four times during the three-month harvest season in the center of the valley with easy accessibility to both coastal and inland people. The Taumana is either sold for cash or more generally exchanged for coconuts or less preferred items including other crops and the pandanus cover, "custom umbrella".

A monthly market was initiated in mid-1972 at Manikaraku to provide for the exchange of vegetable crops and fish. Although it was indicated that rural Solomon Islanders are able to provide for themselves through subsistence agriculture a need for a market place was perceived by the agricultural extension staff. The twenty government employees and family members at Manikaraku must buy all their food as they do not maintain gardens. Approximately fifty men from southeastern Guadalcanal work full time on the Weather Coast road and are unable to devote much time to their gardens. People living on the islands in Marau Sound are considered to have an advantage in providing fish and shall fish while not having extensive gardens. The people of the Guadalcanal mainland have root crops to exchange for sea food. Thus a three-way exchange developed, with the Guadalcanal people offering root crops, the island people offering fish, and the wage employees injecting cash into the exchange. The market is scheduled on the last day of the month to coincide with the government pay day.

People attending the market came by canoe from the islands in Marau Sound and from as far north as Poposa on Guadalcanal. Along the coastal road, people came from as far west as Sukiki. By mid-morning, thirty to forty dugout canoes would be tied alongside the wharf and 250 people would be in attendance. Of the 34 households in Hatare, all had participated actively in one or more of these markets. The Hatare women generally sold pineapples or puddings made of kumara, in return for fish and bread. The range of products available at the market was broad, although not all food items were available on every market day. During the research period, items offered for sale included kumara, taro, pumpkin, baked pudding, green beans, green onions, watercress, tomato, pineapple, papaya, fresh fish, baked fish, oyster, clam, turtle, chicken, cooked beef, bread, betel nut and pepper leaf, and watermelon.

Root crops and shell fish were available in abundance. Fresh fish was the most desired item and the most difficult to purchase, a seeming anomaly in an area surrounded by water. People were anxious to obtain special food items, as when a man carried a turtle into the marketplace on his shoulders, was offered $2 as he swung it down and the turtle was sold before it hit the ground. A baker brought in 26 loaves of bread which were sold within 10 minutes. These "special" items were in short supply because of a degree of uncertainty surrounding the market. The market is scheduled for the last day of the month, the government pay day, but on two of the three observed market days, the pay clerk and payroll had not arrived from Honiara. Sellers were, therefore, hesitant to bring any but the most basic food items to the market.

The Malu'u market in North Malaita (Frazer, 1973:42-58) has some similarities with the Manikaraku market. Both are located near a government station; the basic items exchanged are fish and root crops with fish being in the greatest demand; the use of cash is becoming more important than barter; and the standard buying unit is the shilling or .10¢ piece with the quantity offered varying rather than the price. Tha Malu'u market has been in operation since at least the 1920s, although Frazer does not specify when it began other than to say it is a traditional marketplace. At the time of our survey, the Manikaraku market had been in existence for only a few months. The Malu'u market is held twice a week, on Wednesday and Saturday, whereas the Manikaraku market is scheduled only once a month. On Malaita, Baegu markets (Ross, 1973:89-98) providing for the exchange of root crops and sea produce, were in existence before British pacification efforts. Market times occurred every four days and, at this earlier time, were periods of formal truces, as "fighting was forbidden in the market vicinity" (Ross, 1973:171).

All of these examples demonstrate that the exchange of foods, by both barter and sale, is not dependent upon the presence of a European-purchasing population group.

Although there are no regularly scheduled market days in Wanderer Bay, there were two bazaars held during December 1972. Once was held for the benefit of the Catholic church in Koilosuamomoru and the Sughu school while the other was held for the benefit of the Ghari Corporation. As these bazaars were held to raise cash, all items were sold rather than bartered. Included for sale were foodstuffs: pineapple, banana, taro, pudding, tea, Milo, chicken soup, bread, fish, pork, and other root crops, and non-food items: carved bamboo lime containers, baskets, and canoe paddles. Music and games were part of the activities at the second Ghari Corporation sponsored bazaar. Sales volume for the church and school bazaar was $53.

Two bazaars were also held in Marau: one was for the benefit of the Catholic church and the other was for the benefit of the Catholic mission school. Both were scheduled for days following an expected government pay day and although it was late, thereby reducing the anticipated sales volume, profits from both bazaars did exceed $75. As in Wanderer Bay, various foodstuffs were sold: puddings, curried rice, Milo, and bread, with the added attraction of soft drinks and beer. Various games of chance were available to play: a ring toss (over a bottle of beer, which was the prize), a lottery with prizes from the Hatare Community Development Association store, and several card and dice games. All food sales and games were conducted out of stalls built of saplings and covered with coconut palm fronds.[22]

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[22] McKinnon relates that the bazaar is the most important local market at Vella Lavella. The purpose of these bazaars is to raise money for some community purpose. He reports on two that were held in 1971 to raise money for a school. A total of about $475 was collected in this manner from the two events. McKinnon, 1973: 82-83.

There is also a much more localized form of exchange operating at the village level. As part of the Agriculture Household Survey the people were asked if they had given or received any gifts during the day (Tables 6.35 a, b and 3) and indicate that the reciprocal exchange of ubiquitous goods remains an important aspect of day to day life on the Weather Coast. During the research period in Hatare/Poinaho, the people were establishing new garden plots and many Hatare families were helping each other clear and plant the gardens. Almost every Hatare/Poinaho exchange was with other Hatare area families who had helped with the garden work. During the work day, the family whose garden was being established prepared a noon meal for the workers (71 per cent of the exchanges were cooked food) and most (69 per cent) were considered to be payment for this garden work.

The high incidence of purchased items (27 per cent) in Aona reflects the fact that a shipment of trade goods was received during the survey and people were giving or receiving canned fish, rice, and salt. The "other--locally available" category for Aona and Sughu consisted of such items as tobacco, betel nut, and firewood. The reason for the exchange was generally explained as being "our custom" and was most often based on kinship or personal ties. The great majority of items exchanged were locally available foodstuffs and were grown or were available to all families, thus being ubiquitous goods as defined by Brookfield (with Hart, 1971:316-21). Their exchange serviced to reinforce the reciprocal relations that had been established between kinsmen and others.

Employment

Employment in the Solomon Islands is generally characterized as short-term, transitory, or migratory, and based firmly in the agricultural sector. In 1960, there were 8,408 persons

Table 6.35[a]

NUMBER OF TRANSACTIONS

	Hatare/Poinaho		Aona		Ghauvalisi		Sughu	
Total transactions	52		105		122		213	
Average number of trans. per day	1.7		7.5		5.5		15.2	
Ave. trans./day/HH	.34		1.5		.49		1.1	
Inter-village trans.								
Given	14	27%	35	33%	20	16%	10	5%
Received	36	70%	7	7%	33	27%	6	3%
Intra-village trans.								
Given	1	2%	27	26%	30	25%	125	59%
Received	1	2%	36	34%	39	32%	72	34%

(Note: Given and Received in intra-village exchange do not equal each other

Source: Agriculture Household Survey

Table 6.35[b]

NATURE OF ITEM GIVEN OR RECEIVED

	Hatate/Poinaho		Aona		Ghauvalisi		Sughu	
Cooked food	37	71%	48	46%	12	10%	99	46%
Uncooked food	9	17%	21	20%	99	81%	92	43%
Other--locally available	--		8	8%	--		19	9%
Purchased item	3	6%	28	27%	11	9%	2	1%
Currency	3[a]	6%	--		--		1[b]	
Total	52		105		122		213	

[a] 3 transaction totalling $4

[b] 1 transaction totalling $.10

Source: Agriculture Household Survey

Table 6.35[c]

REASON FOR EXCHANGE

	Hatare/Poinaho		Aona		Ghauvalisi		Sughu	
Custom	16	31%	63	60%	113	93%	183	86%
Payment for work performed	26	69%	42	40%	9	7%	30	14%

Source: Agriculture Household Survey

(6.7% of the population) in wage employment, of whom 36 per cent (3,047) were in agricultural employment. By 1970, there was an increase in persons employed to 13,690 (8.2% of the population) of whom only 16 per cent (2,245) were in agricultural employment (BSIP, 1972:108). This decrease in the percentage employed in agriculture is a result of the decreasing importance of plantation (and expatriate controlled) agriculture to the economy, but not of agriculture itself. In the period 1960 to 1970, the proportion of plantation-produced copra decreased from 45 to 32 per cent while the proportion of copra produced from small-holdings increased from 55 to 68 per cent and there was an absolute increase of almost 4,000 tons of copra produced by small-holders. The agricultural employment statistic decreased because there were fewer men working in plantation agriculture, which is an enumerated employment category, and although there was an increase of copra production from the small-holdings of Solomon Islanders, their agricultural work is not captured in the employment statistics.

Although there has been a decrease in the proportion of agriculturally based employment in the past decade, the overall employment statistic has slowly increased. The number of government employees has increased from 2,167 to 4,102 in the ten-year period and this accounted for 26 per cent of the total employees in 1960 and 30 per cent in 1970, a not particularly large increase. Government employees as a proportion of the total population have increased from .017 per cent to .024 per cent during the decade or an increase of almost 50 per cent. While this increase in the number of civil servants may be expensive, or even too expensive in relation to the small economic base of the Solomon Islands, it does reflect the increasing availability of a number of services. For example, in 1960, the subdistrict station at Manikaraku did not exist. Yet, by 1972, there was a five-man agricultural extension group, a five-man malaria eradication team, a medical assistant, a mid-wife, a radio operator, and a 50-man road crew, all located at the southeastern end of Guadalcanal and providing services never before available locally.

The major increase of employment includes the categories of mining, manufacturing, electricity, commerce, transport, and other services. In 1960 only 485 persons (6 per cent of all employed persons) were employed in these basic activities whereas by 1970, there were 4,160 persons (30 per cent) engaged in these types of work. There are several implications to this statistic both with regard to the continuing development of the Solomon Islands and the quality of its people and, more specifically, its labor force. The labor force is becoming increasingly talented and sophisticated with a lessening inclination for plantation labor.

It is difficult to determine whether the migratory short-term nature of Solomon Islands labor practices is a deliberate choice of the male Solomon Islander. The village is said to "pull" the male back to his home and family. It may be that the male is "pushed" back to the village because of a lack of family housing and a wage rate that would support a family. The assumption that a man is going to return to his home village in a matter of months does not justify a policy of inadequate housing, wages and medical services. This is fully realized by both private and government employers although not so readily acted upon.[23] The Levers company has established a village area on their lands to allow for the accommodation of Tikopian laborers and their families. This has provided a more stable social base; lessened the need for purchased food as gardens are now cultivated; and provided for labor groups responsible for a

[23] The new managing director of Guadalcanal Plains Limited was described as being "sickened by the standard of living that Solomon Islanders were accustomed to working for GPL previously. He plans to build concrete houses with indoor plumbing for employees and their families and a school and a health clinic, and he wants to build swimming pools, a social hall for recreation, a small department store for employees, and to provide a bus service to Honiara" (BSIP-N, 1974, 10:4).

variety of jobs, rather than specialized repetitive individual work assignments (Larson, 1968). In Honiara, the government is active in providing family housing areas with the necessary services, and in various other settlement areas.

There is a need to maintain an adequate labor force in Honiara with a provision for necessary auxiliary services, while not encouraging large scale rural to urban migration. Employment opportunities do not exist equally throughout the Protectorate. In the central district, the main employment areas are on the plantations in the Russell islands, and the plantations and government departments on the north coast of Guadalcanal, which attract employees from throughout the Solomon Islands. This free flow of labor to employment areas can help to insure the development of those areas of best opportunity in addition to allowing a flow of cash and goods to rural villages (Berg, 1966).

Table 6.36 presents a comparison of the ratio of the number of employed persons with the working age population, for both the Protectorate and the Weather Coast. The working age population consists of those persons aged 15-49. The Protectorate figures are based upon 1970 statistics and the Weather Coast data is from the 1972 project census, causing the percentage figures for the Protectorate to be slightly understated in comparison to the Weather Coast.

Table 6.36

PERCENTAGE OF WORKING AGE PERSONS IN PAID EMPLOYMENT

Population	Working Age Persons	Number Employed	Per cent
BSIP - Melanesians	66,901	12,570[a]	18.8
BSIP - Total Population	72,411	13,690	18.9
Weather Coast			
Total defacto	2,968	232	7.8
Total dejure	3,396	552	16.3

[a] Includes both 11,098 employed persons identified as Solomon Islan[ders] and 1,472 persons unenumerated but identified as seamen and domestic[s]. It was assumed that these persons would be predominantly Melanesian[s] (BSIP, 1971:108, 111)

Source: Groenewegen, 1972; Project census, 1972.

The comparison of the Weather Coast <u>defacto</u> and <u>dejure</u> number employed and as a per cent of the working age population, supports the fact that many Weather Coast residents must leave the Weather Coast in order to find wage employment. A comparison of the Weather Coast <u>dejure</u> population in paid employment (16.3 per cent) with the total population in paid employment (18.9 per cent) indicates that Weather Coast persons are participating in wage earning activities to an extent almost equal to that of the rest of the Solomon Islands. The isolation of the Weather Coast has not necessarily hindered people from seeking wage employment, nor has the isolation and alleged lack of local opportunity caused more persons to leave the Weather Coast to seek employment in relation to the Protectorate as a whole. In proportionate terms, it appears as though people from the Weather Coast behave in a pattern similar to other Solomon Islanders in seeking wage employment.

A comparison of the Weather Coast <u>dejure</u> and <u>defacto</u> employed persons shows 552 pmployed <u>dejure</u> persons and 232 employed <u>defacto</u> persons. These figures support the well-known fact that persons must migrate to areas of employment, but it is also interesting to note that there are 232 positions of wage employment on the Weather Coast. However, not all of these positions are held by Weather Coast residents as there is some in-migration to the Weather Coast, particularly by skilled government workers.

Table 6.37 indicates the place of employment of <u>dejure</u> persons. The majority of these persons work on Guadalcanal: Honiara (237), the Weather Coast (131), or the rest of the rural portion of the island (75). The balance of the employed persons (109) have found work in other districts.

Table 6.37

PLACE OF EMPLOYMENT OF EMPLOYED DEJURE PERSONS

Division/District		Total	%
Weather Coast		131	24
Wanderer Bay	18		
Duidui	6		
Vatukulau	18		
Talise	8		
Avuavu	35		
Moli	23		
Tetekanji	1		
Marau	22		
Honiara		237	43
Rural Guadalcanal		75	14
Central District			
Florida, Russells, Isabel		13	2
Malaita District		9	2
Western District		24	4
Eastern District		7	1
Outside Solomon Islands		1	-
Unknown place		55	10
TOTAL		552	100

Source: Project Census, 1972.

Table 6.38 shows the employed defacto persons along the Weather Coast by census division and type of employer. Three-fourths of the employment positions along the Weather Coast are with the government (34), the council (67), the church (47), or through an educational authority (35), which is either

Table 6.38

EMPLOYED DEFACTO PERSONS BY DIVISION AND EMPLOYER

Census Division	Council	Church	Educ.	Gov't.	Mining	Agric.	Retail	Domestic	Other	TOTAL
Wanderer Bay	13	8	6	2		1	1	1		32
Duidui	11	9	7	4	2		1			34
Vatukulau	5	1	8	3	14			1	1	33
Talise	1		2	2						5
Avuavu	4	23	5	6		4				42
Moli	19	5	3	3		2		3	1	36
Tetekanji	3			3						6
Marau	11	1	4	11		7	9	1		44
TOTAL	67	47	35	34	16	14	11	6	2	232[a]
% of total	28.9	20.3	15.1	14.7	6.9	6.0	4.7	2.6	.9	100

[a] An additional 34 persons were working for the Weather Coast Project on census day.

Source: Project Census, 1972.

the government or the church. The private commercial sector, which includes retail establishments, a mining company, and a commercial coconut plantation, accounts for the other one-fourth of the employment opportunities. The Weather Coast is more dependent upon government employment than is the Protectorate as a whole. Much of this government-related employment is related to developmental activities such as the Weather Coast road and agricultural extension services, and it is, of course, planned that these activities encourage the further commercialization of agriculture and other activities.

Both Moli and Marau divisions have 22 persons employed by the government and council which is a reflection of the presence of the Manikaraku subdistrict station and the Weather Coast road construction crew. The presence of the Roman Catholic mission station in Avuavu is shown by the 23 persons employed by the church in that division. The Vatukulau division had 14 persons employed by the Utah Construction and Mining Company, a firm which is no longer present in the Koloula valley. The 13 persons employed in the Wanderer Bay division by the council were, in the majority of cases, involved in the construction of the Bambanakira airstrip. The seven persons employed in Marau in commercial agriculture have paid positions at Paruru plantation, and the nine retail employment positions in Marau are with the three stores and two bakeries located in that division.

Chapman (1969:138-9) indicates that there is a seasonal movement associated with wage employment: men from Duidui and Pichahila will go to Honiara or to coconut plantations for work between the months of February and August. This is the time when the men are least busy with garden work and repairs to houses and pig pens. As part of the Weather Coast project census, employment questions were asked including how long the personshad held their jobs. These census results are shown in

Table 6.39 for the dejure employed persons by length of employment and type of employer. The largest group of dejure employees have been employed for two to four years (139 persons) and about 60 percent of the employed dejure males have had employment for at least one year but less than eight years (304 persons). About one-fourth of the employed dejure persons have been employed for less than one year (140 persons). Many of the persons who have been employed for less than one year are employed on construction crews for the Bambanakira airstrip in Wanderer Bay division, the Weather Coast road in Moli and Marau divisions, and the exploratory mining project in Vatukulau division. For many years, the employment opportunities available to Solomon Islanders were limited to agricultural work on plantations, domestic servants, and church mission activities. The greatest single group of persons in church related work have been employed for more than eight years (16 persons, which is slightly over 20 percent of all church employed persons). By contrast, those persons in commercial agriculture or domestic service have been employed for far less time and more than 50 percent have been employed for less than two years. In comparison, two-thirds of the persons employed by the government have held their jobs for one to eight years (79 persons). The census results suggest that it is accurate to describe agricultural and domestic employment as short term and migratory in nature. However, as the labor force gains new skills and techniques, it may increasingly be necessary for the worker to migrate to a place of employment, although he will work for a longer period of time before returning to the home village. There are various incentives influencing the behavior of the employee and it is likely that a government position in Honiara has more appeal than a laboring job on an isolated plantation. A sense of self-pride in the individual and his particular job may also contribute to the decision to stay on or leave a job. The Lever's company experiment with establishing the village of Nukufero has

Table 6.39

LENGTH OF TIME IN PAID EMPLOYMENT BY TYPE OF EMPLOYER FOR DEJURE POPULATION

Time in Paid Employment	Gov't.	Council	Church	Agric.	Domestic	Retail	Other	Educ.	Forest	Utah	Fish	Not Stated	TOTAL
< - 1 mo	4	5	2	2	2	1							16
1 - 3 mo	5	17	5	5	2	2	3	1		2	1	1	44
3 - 6 mo	4	4	4	5	4	1	3			8		1	34
6 mo - 1 yr	7	11	5	7	3	3	2	2	1	1		4	46
1 - 2 yrs	17	9	10	9	13	9	4	8	8	1	2	3	93
2 - 4 yrs	37	16	13	7	12	14	10	11	8	4	1	6	139
4 - 8 yrs	25	7	11	4	1	4	8	5	6			1	72
8 yrs +	7	4	16	4	2	3	3	5					44
Not Stated	11	6	9	6	5	2	5	1	5	1		13	64
TOTAL	117	79	75	49	44	39	38	33	28	17	4	29	552

Source: 1972 Project Census

resulted in employees remaining for a longer term of employment. It could be that the short-term migratory nature of Solomon Islands employment is, in fact, a result of being "pushed" back to the village by the less than optimal living/working conditions of an earlier era.

There is no indication from the census results that there is any pattern of seasonality to the seeking of wage employment. However, Chapman (1969) indicated that the "season" for wage employment among Duidui and Pichahila men was between February and August. Since the census was taken on November 27, 1972, the employment "season" was not included, which could have resulted in an understatement of employment in the less than six months employment category of Table 6.39. Seasonal data is difficult to collect in a census attempting to describe a population at one particular point in time: resulting data will be under- or over-stated. However, in addition to the census, the household heads at four of the research sites were asked about their past employment histories. Table 6.40 shows the summation of the time these men spent in wage employment by each wage earning position held outside of the Weather Coast. The average years worked per job are highest for the coastal sites of Hatare (3.1 years) and Sughu (2.6 years), while the inland sites of Aona (2.1 years) and Ghauvalisi (1.5 years) are shorter. In Hatare, Aona, and Sughu, the majority of wage positions were held for one or two years. The short-term migratory nature of Solomon Islander employment patterns is supported by these employment histories, but there is no indication of seasonality in seeking employment which is related to garden crop production cycles. A similar conclusion was reached by Bathgate, Frazer and McKinnon (1973:24).

Various types of employment patterns have been suggested from the census data: full-time labor away from the person's home village; labor sought on a seasonal basis and therefore of a short-term nature; and labor opportunities available near

Table 6.40

EMPLOYMENT OF HOUSEHOLD HEADS OUTSIDE
OF WEATHER COAST BY EACH WAGE POSITION

Years Spent in Each Job	Hatare	Aona	Ghauvalisi	Sughu
Up to 1	3	3	1	4
1 to 2	20	6	1	5
3 to 5	5	2		3
6 to 10	4	1		2
11 to 15	2			
Total wage positions	34	12	2	14
Total years worked	105	25	3	36
Average years per job	3.1	2.1	1.5	2.6

Source: Project Census, 1972.

or at the home village. While the more interesting comparison between these types of employment patterns may be a comparison of attitudes and aspirations, it is also a most difficult assessment to make. Therefore, it is necessary to make the comparison on a quantitative basis, which entails a description of earning and spending patterns. For this purpose, data gathered by Bellam in 1962 will be used as will some of Chapman's unpublished field data collected in 1966. This will be followed by the more recent data obtained in 1972. It is realized that much occurred during the decade this data was collected, but it is considered that some general conclusions can be made from it.

Income and Expenses

Bellam's study of Melanesian workers, both migrant laborers and skilled, presents a wealth of detail about Solomon Islanders migrating to and working in Honiara. Of particular interest are the patterns of spending of the migrant and skilled laborers. These persons all came to work in Honiara and included single men and married men with and without their families. Some came for only a few months work while others were senior civil servants with many years of employment experience, and the great majority of them remain "completely oriented to the village rather than to town" (Bellam, 1964:140). Even so, they had come to town to seek employment. In describing the attitudes of the migrant workers toward the cash earning potentials of their home villages Bellam states,

> The overwhelming majority (95%) maintained that the income which could be earned at home was insufficient. Those from the "weather coast" of Guadalcanal and the bush villages of this island and Malaita said that the amount of money that could be earned was negligible or non-existent (Bellam, 1964:41).

The mean monthly income earned by the members of the study were: migrant laborers, \$A15; skilled workers, \$A32; and the sample average was \$A22 (Bellam, 1964:39)(amounts in ₤A which were converted to \$A at the rate of ₤A1 = \$A2). Based on these average incomes, Table 6.41 shows the pattern of spending of the sample group of workers.

Day to day living expenses accounted for 85 percent of the group's spending and 15 percent of their income was used for savings or for items to be used in their home villages. In relative terms, 15 percent is a fairly high proportion of money saved or redirected to the village, however, for a migrant worker, only nine percent of his income is thus used, which amounts to \$1.35 per month, an amount that will neither lead

Table 6.41

PATTERN OF SPENDING OF WORKERS EMPLOYED IN HONIARA, 1962

Expense Item	Migrant Workers %	Migrant Workers $	Skilled Workers %	Skilled Workers $	Sample Average %	Sample Average $
Essentials (food, clothing)	56	8.40	52	16.64	53	11.66
Leisure (cinema, beer, cigarettes)	35	5.25	28	8.96	31	6.82
Other	--	--	2	.64	1	.22
Savings	2	.30	6	1.92	4	.88
To village (money and goods)	7	1.05	13	4.16	11	2.42
TOTAL	100	15.00	101	32.32	100	22.00

NOTE: Bellam did not present the percentages with currency figures, therefore, the income figures were taken from the average for the various workers.

Source: Bellam, 1964:62,39.

very far to the monetization of the village economy nor purchase very much. Although the migrant workers indicated that village incomes were insufficient, there appears to be little money left over from Honiara living expenses to have much of an impact at the village level. As Bellam (1964:82) indicated about migrant workers, "most would spend more in two months on beer and cigarettes than they would send or take home in a year". A migrant worker earning an average of $A15 per month is forced to live at a fairly spartan level and this is not an attempt to begrudge him a few pleasures. The wage policy is not designed to allow a man an income sufficient to establish a village or individual developmental project upon his return home; rather they are designed to cover basic living expenses only. Neither is it necessary for a man to return home with a variety of household goods and cash for him to have an impact upon the village. For example, two Hatare men had worked in Honiara for several years and when they returned, they brought some goods, but more important they returned with ideas. These two men were instrumental in establishing two cooperative enterprises within their home areas involving most of the local residents. Based on wage rates and expenditure patterns in Honiara, it is unlikely that a man would be able to accumulate sufficient capital for much in the way of goods or village developmental projects. There remains, however, the possibility that these workers will acquire new skills, techniques and ideas. Bathgate, in a study conducted in 1971-1972, comes to a similar conclusion regarding labor opportunities available to residents of northwest Guadalcanal. He states,

> A great number of informants, nearly all of whom had been employed as laborers rather than as semi-skilled workers, stated that they had terminated jobs and returned to the village because wages were low or didn't increase and were insufficient to allow, after subsistence needs had been met and a few basic purchases made--perhaps an axe, a bush knife and some calico--any sizeable accumulation of money (Bathgate, 1973:63).

In February 1966, a group of 11 men left Duidui village for a planned period of two to three months, to seek employment as they had completed much of their seasonal garden work. These men walked west and north along the coast seeking agricultural employment from other Solomon Islanders. Work was found at various places brushing coconuts, making copra, or constructing leaf houses. In all cases, the employer was a Solomon Islander and generally was a person the men knew personally or had heard about. They were hesitant to request labor but rather waited to be asked if they wanted to work. Table 6.42 shows the income

Table 6.42

INCOME AND EXPENSES OF FOUR DUIDUI MEN

WITH WAGE EMPLOYMENT, FEBRUARY TO MAY, 1966

	A	B	C	D	Total
Weeks Worked	10	10	7	12	39
INCOME					
Aro	$ 5.00	$ 7.00	$ 6.90	$ 8.00	$26.90
Maravovo	15.00	19.00		24.00	58.00
Moela		2.60	9.00		11.60
Total	20.00	26.00	15.90	32.00	96.50
Av. pay/week	2.00	2.60	2.27	2.67	2.41
EXPENSE					
Tax	6.00	6.00		6.00	18.00
Passage/fares		1.00	2.20	.80	4.00
Food		4.05	.60	.45	5.10
Clothing	4.80	6.60	5.90	7.00	24.30
Household	3.80	2.30	2.00	3.10	11.20
Tools	1.40			.10	1.50
Tobacco			.20	.10	.30
Gifts ($)	3.20	4.00			7.20
Personal	.20	.40	.20	.20	1.00
Brought home	.60	4.25	4.80	14.25	23.90
Total	19.40	29.35	15.10	32.15	96.50

Source: Chapman, 1966.
These figures were originally recorded as ₤A and have been converted to $A at the rate of ₤A = $A2.

and expenses of four men who participated in this short-term search for employment. The four men all found work in rural areas, but all concluded the excursion with about one week in Honiara.

As Table 6.42 shows, the average pay per week was $A2.41 which would be slightly over $A10 per month. This compares to the $A15 per month for the migrant laborers of Bellam's study of four years previously. The comparison is favorable as the laborers in Honiara had to pay for their own food while the Duidui men all received food rations in addition to their pay, indicating that Solomon Islander employers offer a competitive wage rate. The Duidui men had a far different pattern of spending than the Honiara workers. About one-fourth of their incomes was spent on items the men did not bring home: tax, passage, tobacco, and a portion of the food expense. The largest expense item in these categories was the annual head tax, which the men paid while in Visale or Honiara and which was one of the major reasons for their departure. The remaining 75 percent of their incomes was spent on various items for their families or the remaining cash was brought home. Almost a quarter of their income was returned to the village. The comparison between the expense for tobacco and amount saved for the Duidui men and the Honiara laborers is quite striking and may in part be a reflection of religious affiliations. Living expenses for the Duidui men were minimal and it would appear that short-term agricultural employment by other Solomon Islanders affords an opportunity to use money for family purposes (and pay tax).

It should not be assumed that because a Solomon Islander is engaged as a laborer in plantation agriculture that this means he is working for an expatriate. In the 1930s, it was reported that Solomon Islanders who had planted coconuts were hiring other Solomon Islanders to care for the palms and process the coconuts into copra (BSIP, 1972a:7; BSIP, 1936a:5). These Solomon Islander agriculture entrepreneurs were paying cash at the rate of 5 shillings per week in 1932 to the laborers, as well as providing rations. This practice has continued for at least the past 40 years so that in 1966, Duidui laborers were earning an average of $2.41 per week plus rations when performing the same kind of work (See Table 6.42). In Hatare, farmers were paying $3 per six-day week plus rations for agricultural laborers or $4.20 per six-day week without rations.

There has been a negative response by government administrators to this practice of Solomon Islanders hiring other Solomon Islanders to perform agricultural labor: that since agricultural incomes are so low it would appear to be an expensive practice and lessen the farmer's income to hire agricultural laborers (Central News, 1966,7:5). While this may be so, particularly if the farmer does not assist with the work, the motives behind this action are of interest. The practice has been in effect since at least 1932 and this was a time when the Solomon Islander was participating in the cash economy to a very limited extent. The expatriate-controlled plantations were producing the bulk of the country's copra, with Solomon Islanders as laborers. When Solomon Islanders began cultivating coconuts for sale, there may have been an attempt to emulate the expatriate plantation owner who hired laborers rather than process copra himself. However, in 1935, it was reported that "many of these natives are so fortunately placed that they can afford to employ less fortunate brethren to make their copra for them paying wages at current rates" (BSIP, 1936a:5). More recently in 1972, a Hatare man stated that Hatare farmers like to hire men from the inland areas because "they can't grow anything to sell." The Solomon Islander farmer, who by reason of location and topography, is able to cultivate a cash crop may be introducing his own form of income redistribution while strengthening his network of interpersonal relationships. The farmer is also filling an economic void brought on by the government policy which essentially by-passes the inland dwelling

Solomon Islander in attempts to develop commercial agriculture. Comparative income data for Duidui in 1965 and 1972 suggest that the Solomon Islander as a source of income to other Solomon Islanders has decreased as a proportion of wage income from seven percent in 1965 to one percent in 1972 (Chapman, 1966; Project Census, 1972).

Table 6.40 shows the length of employment outside the Weather Coast region, of household heads from four research sites. Employment opportunities on the Weather Coast itself are increasing and Table 6.38 shows the full extent of Weather Coast wage employment. There was some local employment at each of the research sites. In Sughu, one man was the Native Court president, one man was a storekeeper for the Ghari Corporation, and another was a priest in the Anglican church. In Ghauvalisi, local employment was available in constructing the Bambanakira airstrip. In Aona, one man was the council ward chairman and employment was available at Chikora with the Utah Construction and Mining Company. At the time of the survey, 19 men from the 34 Hatare households held positions of wage employment in the area. Table 6.43 lists these jobs by source of income, how many men work at the job, the individual monthly salary paid, and the monthly aggregate income. Governmental sources of wage labor (both central government and local council) account for 11 positions and eight can be considered as being within the private sector. The three storekeeper positions, however, are at least partially dependent upon the government wages paid within the district (to both the government employees at the Manikaraku subdistrict station and the men working on the Weather Coast road project). Several of the jobs are permanent positions, but are generally filled on an informal rotational basis. All of the employed men also have gardens and coconut plantations that require their attention, and they prefer to have some time to devote to these endeavors.

Table 6.43

WAGES OF EMPLOYED HATARE MALES BY POSITION AND SECTOR

Position Title	Total Number Employed	Monthly Wage	Total Wages Per Month
Private:			
Storekeeper	3	2 @ 16	32
		1 @ 12	12
Tractor driver	1	10	10
Shell worker	3	1 @ 30	30
		1 @ 26	26
		1 @ 24	24
Casual laborer	1	15	15
Total - private sector	8		$A149
Government:			
Agriculture laborer	3	1 @ 30	30
		2 @ 23	46
Road worker	3	3 @ 17	51
Radio operator	1	16	16
School teacher	1	50	50
Tool keeper	1	10	10
Native Court president	1	8	8
Pensioner	1	12	12
Total - government sector	11		$A223
Total - private and government sector	19		$A372

Source: Witt, 1974, 151.

In addition to regular wage employment, there are also opportunities in Hatare for general agricultural labor. Ten farmers hire temporary agricultural laborers for work, primarily in coconut groves, clearing land, planting coconuts, weeding or brushing established coconuts, and harvesting the coconuts for copra. Six men who are known for their availability for this type of work are young, single, or without coconut plantings of their own. Wages for agricultural labor are paid either at a daily rate or as a flat sum for the job. The daily wage rate is \$A.50 or \$A.70 a day. The lower rate is paid when the laborer lives with, and is fed by, the hiring household, while the higher wage is paid to a man living at home but working during the day. Occasionally a flat rate of \$A10 or \$A20 will be offered to two or three men to clear a designated area, with the laborers free to determine how long the job will take.

There is a total monthly income from wages of \$A372 in Hatare. Table 6.44 shows the income and expense patterns for the subgroup of Hatare/Poinaho for the month of November 1972. As with Duidui, the Hatare/Poinaho pattern is the reverse of the expenditure patterns of the Honiara laborers, with about 15 percent of the total income spent for food, personal items, and tobacco, and the balance in an agricultural capital investment, savings, and a tax payment.

The patterns of spending for Duidui men with short-term employment and the Hatare/Poinaho men with local employment are similar, in that much more of their money is spent in their villages and/or for their families. They do not have to spend as much for personal living as do men employed in Honiara, which gives them more discretionary income. In Hatare/Poinaho, the greater proportion of income was spent for an agricultural development purpose and the availability of local wage incomes has been partially responsible for the establishment and maintenance of the Hatare Community Development Association (HCDA).

Table 6.44

INCOME AND EXPENSES FOR HATARE/POINAHO, NOVEMBER 1972

INCOME		EXPENSE	
Wage labor	$A 89.00	Food	$A 11.80
Agricultural sales	11.53	Personal items	2.70
Gift	3.00	Tobacco/betel nut	2.98
		Agricultural (pig wire)	52.00
Total	$A103.53	Gift	1.00
		Tax payment	6.00
		Total	$A 76.48
		Savings	27.25
		Total	$A103.53

Source: Witt, 1974, 154.

The HCDA has, in turn, been a source of wage positions, namely two storekeepers and a tractor driver. The prevalence of Solomon Islanders hiring other Solomon Islanders for work related to coconut plantations is of interest, in that the system of subsidy payments to farmers establishing new coconut groves or rehabilitating older groves, may have increased the availability of rural employment opportunities. There may also be a large scale underenumeration of agriculturallaborers in the labor censuses if this is a widespread practice.

Local Business and Entrepreneurship

Since there is no particular use for money earned from selling copra if there is nothing to spend it on, the western copra traders in the Pacific early established small trade stores. The trader's agent purchased the copra to await shipment, and held a small array of goods, such as fish hooks, razors, plane irons, files, chisels, axes and hatchets, knives, tobacco, cloth and firearms (Ward, 1972:109) to sell to the copra-producing farmer. The entire trading and marketing operation was dominated by expatriates, while the islanders' part was to produce the copra or collect such exportable items as shells or beche-de-mer.

As the physical characteristics of the Weather Coast precluded the extensive development of copra, and there was a lack of exportable resources, there was little western-oriented trading, except for one trader at Marau, in the nineteenth century. Today, small trade stores in the rural areas are operated by Solomon Islanders, "most of whom operate spasmodically [and] are most frequently retailers of small stocks of goods bought at retail prices from expatriate concerns. They have little trading knowhow or resources, carry an identical and narrow range of goods, and operate a high margin low turnover business" (BSIP, 1971a:90). They are limited to retailing goods and, because of their minimal resources, are not buying and marketing copra, thereby limiting their potential profits. Operators of small cutter boats have taken over some of the marketing of agricultural production. The limited range of goods in stores has not acted as a particularly powerful incentive to farmers to grow more cash crops. However, while many enterprises can be found which fit this somewhat stereotyped description, the trend developing over the past fifteen years has been to engage in cooperative business enterprises of a more integrated nature, such as community farms, and cooperatively capitalized stores and transportation links. A wider range of business activity now exists, from the stereotyped trade store in Ghauvalisi with an inventory valued at $52.25 to the enterprise in Hatare which had average monthly sales of $1,587 and a gross copra sales income of $609.

As part of the Weather Coast census, all persons were asked about which work activity they spent most of their time. Of a total of 24 responses indicating operating their own business, Wanderer Bay, Vatukulau, and Marau each had five; Moli four; Duidui three; Talise two; and none for Avuavu and Tetekanji. More detailed information about business activity was gathered at the various field research sites.

In the Ghauvalisi area there were five stores that had been established on a shareholder basis, supported financially by two to 14 persons. A total of 41 persons had invested $453, and duing 1972, goods costing $961 had been purchased from Honiara for resale. The scale of business was very small with average daily sales at all five stores averaging less than $2.65 and with a limited range of goods (Table 6.45).

Similarly, there were small trade store operations in the Koloula valley: one each in Boko, Koloaniu, and Ngaliturara and two in Valearanisi. The presence of the Utah Construction and Mining Co.'s mining camp above Chikoracontributed some influence to the location of the stores and the amount of business they could expect. Three of the store owners were employed at Chikora.

In general, no store hours were kept and the store was open whenever an adult member of the family was present to conduct business. All of the stores were family affairs with no hired help, although capital came from outside the immediate family, and a great deal of responsibility fell on the wife if her husband was absent. In the three stores whose owners were employed at Chikora, the wives were responsible for the store for five days a week.

Stock was purchased from merchants in Honiara at retail rates, and paid in cash. It was transported to the valley by either ship or helicopter under contract to the Utah Construction and Mining Company. When the goods were transported by boat, only one person would make the trip to Honiara, though often he

Table 6.45

STOCK OF GOODS AT VARIOUS WEATHER COAST STORES

Item	Duidui (A)	Aona (B)	Sughu (C)	Ghauvalisi (D)	Makaruka (E)	Hatare (F)
Staples	Sugar Salt	A Rice Biscuits	B	B Tea	D Tinned Milk Coffee	E Flour Cocoa Butter
Spices		Curry Powder	Curry Powder Onions	B		C Pepper Soy Sauce
Meat/Fish	Meat (2 brands) Fish	Meat Fish	Meat Fish	Meat (#) Fish	Meat (4) Fish (2)	Meat (13) Fish (3)
Basic Household/ Personal	Soap-bar Powder (2)	Soap-bar Kerosene Matches	B Batteries Twist tobacco	Soap-bar (3) C Cigarettes Milk	D Soap-powder (2) Milk biscuits Date Roll Soft drinks (2) Candy Gum	Soap-bar (9) Soap-powder (3) E Betel-nut D, E Fruit Cordial Tinned Vegetables Tinned Fruit
Clothing		Calico	B	B Underwear Dresses	B Underwear	D Blouses Trousers, Long & Short Shirts Belts Sandals
Other Personal		Hair Cream Toothpaste		Hair Cream Hair pins Towels	Towel Cigarette Lighter Flints Pipe Mirror Baby Powder Peroxide Hankerchief Necklace Razor Blades Playing Cards	B, D, E Scissors Needle Thread/Cotton Perfume Deodorant Talcum Powder Baby Bottles Nipples Rubber Balls Soccer Ball
Tools			Machete Knife Fish Hooks		Fish Line	C, E Axe File Copra Knife Hammer
Household Items	String		Flashlight Cooking Pot Lantern		C Mats Cups Pillows	E Silverware Plates Soup Bowls Wash Basins Bread Pans Water Bucket Blankets Sheets Primus Radio
Other				Exercise Book	D Pen	E Writing Tablets Envelopes Cough Medicine Bandages Aspirin

Source: Field notes

would purchase for more than one store, thereby decreasing the cost of frequent trips by each store owner. The basic rate for transport from the coast near the valley mouth was $4 one way per person, plus a freight charge of $.50 per large carton or box of goods. Upon return from Honiara, additional payment was made for carrying the goods up into the valley, at rates which varied according to destination. For example, the rate for Boko, a distance of one and a half hours walk from Inakona, was $.40 per carrier. Purchasing trips such as these were made three to four times per year.

The other means of transport was by the very sophisticated means of a helicopter, which was regularly used to transport personal goods of the employees, and also to bring in goods for the valley stores on an occasional basis. If the helicopter was used, the amount purchased was less than on a boat trip but the helicopter could be used more frequently without the need to pay a passenger fare. A freight charge of $.50 per large item was made.

Each of these upper Koloula valley stores was initially capitalized by a small group of persons. The volume of transactions varied between stores, although none had a wide selection of goods (Table 6.45) and no records were kept showing the flow of supply. Credit was available at the stores, but was not commonly given. At the end of the research period, plans were being formulated to establish a new store in the valley. An initial goal of $200 was in the process of being collected from various valley residents in order to purchase the initial stock of trade goods. This was to be the first cooperative venture undertaken in the valley and it was planned to hire a full-time storekeeper to manage the operation. It is likely that the profitability of this new store would be minimal because of the other five valley stores. The presence of the Utah Construction and Mining Co. had helped to keep the existing stores in operation and it is likely that it gave an impetus to the establishment of the new store. The company also tended to minimize its effect upon the economic structure of the valley by allowing employees to use the helicopter for personal orders rather than deal through the stores. However, the cessation of exploratory drilling and the company's withdrawal from the Solomon Islands has probably diminished the profitability of all stores in the area.

In the Wanderer Bay area there were six "Hawker-License" trading stores, of which five were privately owned and one cooperative. They were, for the 400 people of Wanderer Bay, the sources of rice, sugar, tobacco, calico, and other processed or manufactured goods. The name "Hawker-License" is taken from the name of the license, costing $10 per year, which a store owner must have. There appeared to be at least four reasons for the existence of the individually-owned stores, including the status which store ownership conferred upon a man; the immediately accessible source of supply of store goods for consumption by the owner's family; a desire to help the village; and profit. Unlike the situation in more developed societies, profit was not necessarily the prime motive; all four reasons were important.

For the cooperatively owned store, the ideas of helping the village and of making a profit best explain its existence. An element of the former was explicitly stated by a large sign hanging inside the store, which was translated as saying that an objective of the cooperative was to provide a source of employment in the village for some of the local standard seven leavers. In fact, the only paid employee of the cooperative was a young man who had just finished his Senior Primary School education the year before (See Chapter 7).

The combined total receipts from sales of the six stores was estimated at approximately $2500 for the year (Table 6.46). The average value at cost of the inventory on hand in any of the five individually owned stores was $50 or less, while for the cooperative store, the Ghari Corporation, it was approximately

$150. The five smaller stores each operated out of one cupboard in a room in the owner's leaf house whereas the Corporation had a separate structure. Credit was not given by any of these stores; and none had any set schedule of times when purchases could be made. If a person wanted to buy something, it was necessary to find the owner or operator, to come and unlock the store and make the sale.

The cooperative was the largest of the six stores in Wanderer Bay, and the most notable not only because of its size, but also for its effect on the operations of the other stores. The Ghari Corporation commenced business in December 1971, primarily at the instigation of a young, educated Sughu man who was a teacher at the Government Primary School in Honiara in 1972. It is the latest in a series of previously unsuccessful cooperative ventures launched in Wanderer Bay over the past ten years. An earlier one had failed because it was supported only by Anglicans, and the Catholics, who make up about half of the population of the area, were not involved. Another cooperative effort for copra marketing was encouraged by the government but failed to gain the necessary local support to sustain it. A third attempt involved supplying root crops to certain institutions in Honiara, but also failed when some of the people felt that their labor was being exploited to the profit of one individual rather than the community as a whole.

Available evidence indicates that the Ghari Corporation has thus far avoided the obvious difficulties which caused the failure of its predecessors. It has the near universal support of both Anglicans and Catholics in the immediate Wanderer Bay area, in addition to scattered membership in the rest of Wanderer Bay ward and neighboring villages in Tangarare ward. The Corporation was begun and is controlled by local people and is free from any direct government, missionary or other institutional influence. As far as could be determined from an informal audit of the financial records, after one year of operation, no in-

Table 6.46

PROFIT STATEMENT OF SIX WANDERER BAY STORES

STORE	Cost of Goods Sold (1)	Revenues From Sales (2)	Cost of Hawker-License (3)	Cost of Freight for Goods Sold[a] (4)	Cost of Passage to Purchase Goods[a] (5)	Other Expenses[b] (6)	Profits (7)	Purchases from Ghari Corp. (8)	Age of Store (9)	Number of Trips to Honiara to Purchase Supplies (10)
A	$ 370	555	10	5	10	--	160	67	5 yrs.	5
B	100	150	10	3	12	--	25	0	3	3
C	210	315	10	2	4	--	90	122	20	2
C	177	266	10	4	8	--	67	27	3	4
E	120	180	10	0	0	--	50	120	2	0
GHARI Corp.	793	1053	10	17	13	62	158	--	1	8
	1770	2519	60	31	47	62	550	336		

[a] All of the goods sold by these stores were purchased at either the Ghari Corporation or in Honiara. For goods purchased at the Ghari Corporation (Col. 9), there were no freight or passage expenses since all 5 private stores were within 10 minutes walk of the Ghari Corporation Store. The entries in Columns 4 and 5 then reflect the cost to the store owners of going to Honiara by ship and bringing back the cargo. No attempt was made to estimate expenses to the owner while in Honiara on these trips.

The reasons that costs of frieght and passage (cols. 4 and 5) bears only a casual relationship to the number of purchasing trips and the amounts purchased is that the men travelled on different boats, paid different rates on the boats and sometimes travelled free if their friends were the bosuns on these boats.

[b] See Ghari Corporation Financial Statement for breakdown of these expenses.

[c] The owner of this store was a travelling Hawker for 35 years.

SOURCE: Store records and field notes.

individual is profiting from the enterprise. Its long-term viability, however, remains to be seen.

As of December 20, 1972, there were 147 shareholders in the Ghari Corporation holding a total of 267 shares for which $2 each was paid (Fig. 6.6). Four of the five largest shareholders (four with 10 shares and one with 15), are also owners of the smaller stores. Most of the capital was evidently paid into the Corporation in the early months of 1972, but this was difficult to ascertain as no record was kept of the date of sale of shares. Initially, the store acted only as middle-man to the individually owned stores, selling whole case lots and whole bags of rice and sugar only. When, at the end of five months' operation gross sales totaled less than $200 for the period, the decision was made to operate on a retail level as well. Sales picked up and were estimated at $1000 for the year from December 20, 1971 to December 20, 1972.

Table 6.46 gives the estimates of sales, expenses and profits for 1972 for all six stores. Not all of the stores had accurate and complete records which necessitated a certain amount of estimation. One of the storekeepers had all of the receipts for his purchases for the year (Store A), two had some of their receipts, and two had none. For those without records, intensive questioning about the number of trips to Honiara to purchase goods, the approximate amount spent or description of goods brought back, and the record of sales to private store owners kept by the Ghari Corporation in the first five months of 1972, were all used to estimate the year's purchases. With the aid of these figures and three rather heroic assumptions, Table 6.46 was derived.

The first assumption was that the inventory of goods for sale was the same at the end of the year as it was at the beginning. This permitted considering the total purchases for the year by the store as being the same as the cost of goods sold for the year, without any adjustment for inventory changes. The lack of any information confirming or denying this assumption made it a necessity as well as a convenience. The second assumption was that there was no consumption of the store's inventory by the owner's family and that all of the goods were sold. This assumption is obviously contradicted by one of the reasons for the store's

CAPITAL INVESTED IN COOPERATIVE ENTERPRISES

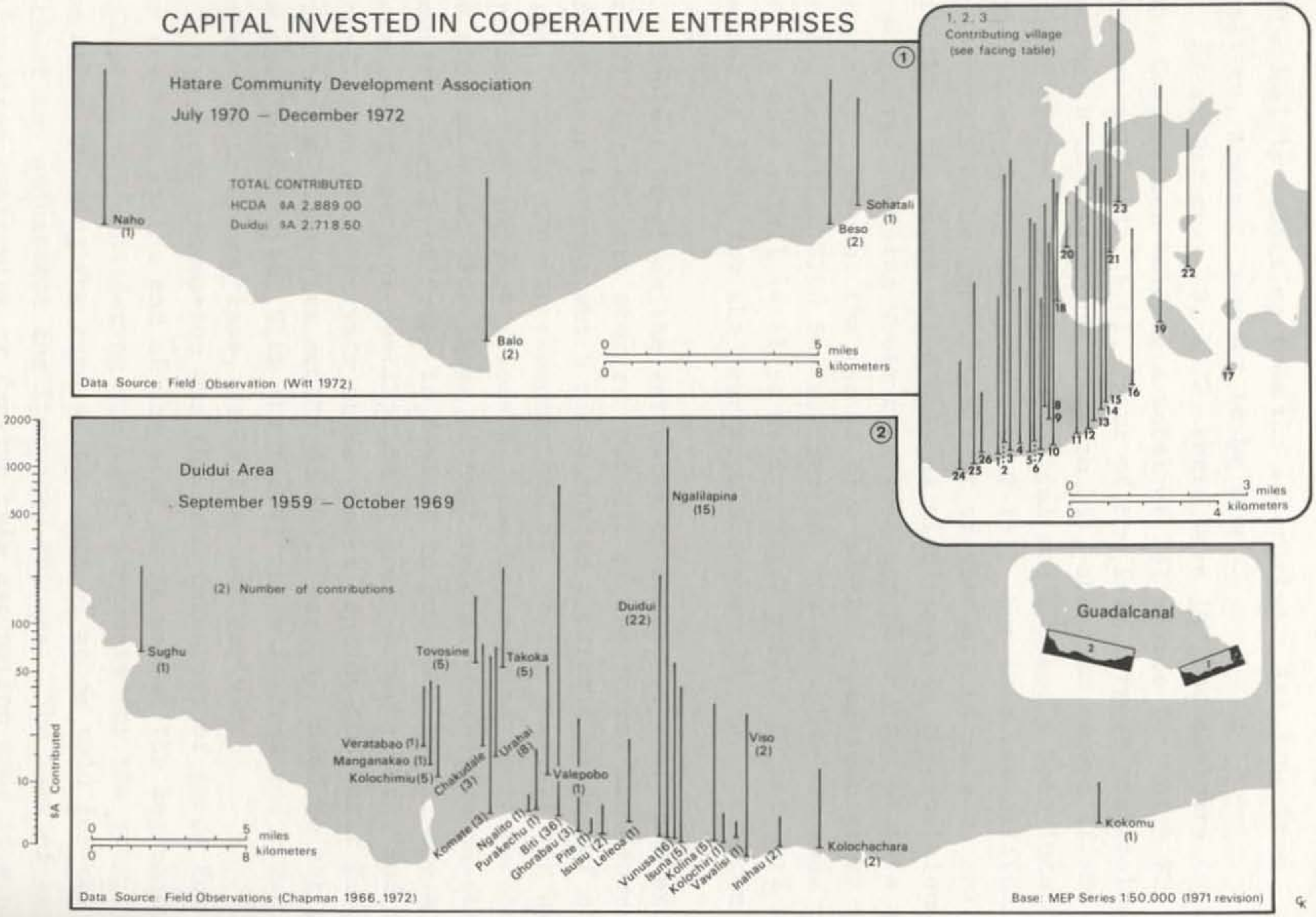

Figure 6.6

CONTRIBUTING VILLAGES
(Fig. 6.6)

1. Hatare Community Development Association

Hatare	Number of Contributions	Amount Contributed		Non Hatare	Number of Contributions	Amount Contributed
Komunikau	2	40	16.	Paruru	1	40
Sari	13	214	17.	Niu	2	110
Poinaho	14	291	18.	Piapia	1	20
Oterama	2	40	19.	Alite	4	134
One	4	125	20.	Nokenoke	2	8
Nazareth	4	100	21.	Wahere	2	30
Onetewa	2	39	22.	Simuruka	2	30
Narioro	6	80	23.	Poinakeni	4	70
Komunipua	4	54	24.	Vunivatu	1	20
Kompau	10	202	25.	Karapopora	2	58
Waihusa	7	152	26.	Hunivatu	1	10
Community Assoc.	1	360				
Hautahe	8	176		Naho	1	40
Komunipaipai	5	106		Balo	2	44
Su'u	13	242		Beso	2	34
Eve'eve	0	0		Sohatali	1	20

2. Duidui Area

illage	1959 Coconut Paddock	1961 Store	1962 Kolochiri	1965 Ruth	Total	Number of Contributions
alilapina	82.50	46	1164	304	1596.50	15
iti	32.50	18	280	190	518.50	36
idui			88	100	188	22
nusa	12	12	14	14	52	16
mate				44	40	3
suna	2	4	20	12	38	5
iso			16	16	32	2
lina	2	2	10	16	30	5
orabau		1	10	10	21	3
rahai	6	6		8	20	8
lepobo	6	6		8	20	1
hakudale		4		14	18	3
koka	6	2	10		18	5
lochimiu	2.50	2	6	6	16.50	5
ghu				14	14	1
eleoa			14		14	1
nganakao			14		14	1
olochachara			7	6	13	2
ovosine	4	7			11	5
orakechu				10	10	1
ratabao		6		10	10	1
okomu		2			6	1
uisu	2				4	2
lochiri				4	4	1
ahau	2	2			4	2
te	2				2	1
valisi		2			2	1
alito		2			2	1

existence given earlier. However, it was impossible to estimate the magnitude of this factor. However, the amount of goods consumed by the people of Wanderer Bay remains the same as the only "loss" is that portion of profits not received by the owner on the "sales to himself" at his cost.

The third assumption used in deriving Table 6.46 is that each of the five stores used a 50 percent mark-up over cost. This figure was arrived at by taking a (subjectively) weighted average of the mark-ups on various goods sold in the different stores. They ranged from 10 percent to 100 percent with most goods falling in the 40 to 50 percent area. Although the prices charged by all six stores in Wanderer Bay were nearly identical and with few exceptions, they all sold the same things, there is a reasonable explanation why the mark-up of the individually owned stores averaged twice that of the Corporation store. A large proportion of the sales of the smaller stores consisted of rice or sugar by the cup, kerosene by the bottle and single units of many small items. The mark-ups on these items were well above 50 percent. On the other hand, one-third of the Corporation's total sales were cases of goods, or full bags of sugar and rice for which their mark-up was very low (5 to 20 percent). In addition to this, the Corporation did sell some items not usually carried by the other stores and these in general had a lower mark-up.

Column 7 of Table 6.46 give estimates of the year's profits for the stores. These figures can be considered to be a maximum for the five individually owned stores since the assumption about consumption by owners and the understatement of purchasing expenses both lead to an overstatement of profits. Column 8 of Table 6.46 gives the amount of purchases by the private store owners from the Ghari Corporation. A comparison between Stores B and E is interesting since the former did not purchase anything from the Corporation, while the latter made all of his purchases from it. The owner of Store B explained that he did not purchase from the Corporation because their prices were somewhat higher than were the prices charged by his Honiara supplier. This was true, yet the fallacy of his economy is quite clearly shown when one compares the total expenses and profits for the two stores. Purchasing costs for Store E were zero, while they were $15 for B. This made the latter's profits 38 percent lower than they could have been had he purchased his goods locally. However, this brief analysis does not consider the pleasure or utility derived by the owner of Store B from his trips to Honiara. It is unfair to consider all of the money spent as expenses to his store.

Price competition between the stores, appears to be non-existent. As mentioned earlier, all six stores sold the same things: rice, sugar, kerosene, flashlight batteries, tobacco, calico, fish hooks, salt, biscuits, soap and tinned mackerel. The Corporation did offer some larger items: flashlights, pots, machetes, knives, and kerosene lanterns. The prices for similar items were almost always the same between stores. Two of the privately owned stores were in buildings adjacent to the Corporation store, and the other three were located in separate villages all within ten minutes walking time of the Corporation. The owners of the two stores next to the Corporation were also on its board of directors and one of them was its chief (unpaid) storekeeper. The previously mentioned Standard Seven leaver was paid by the Corporation, but he was the assistant only. If someone wanted to buy something from the chief storekeeper, he first had to specify whether he wanted to buy from the Corporation or from that man's own store. Significantly, the only storekeeper who made any mention that the opening of the Corporation store had hurt his business was the owner of Store B, the only one who did not buy any supplies from it.

If there is one generalization which can be made from the study of the Hawker-License stores in the Wanderer Bay area, it is that these businesses are not run on the same principles which govern comparable operations in more developed areas. For the individually run stores in particular, written records are not kept and economic efficiency does not appear to be a consideration which guides the actions of the owners. The fact that these stores have stayed in business, some for quite long periods of time (Table 6.46, column 9), indicates that they get along quite well without following business principles accepted elsewhere. Though profits were not being maximized, the stores were making enough money to survive economically. The non-economic motivations for the stores' owners must also be satisfied or else they would, presumably, quit business and buy from someone else.

The Ghari Corporation had money in the bank in excess of that needed to carry on the store's operations. Although the Corporation's members and directors often discussed other possible projects which might be undertaken by the organization to help the area economically, no firm plans to utilize this excess capital had been decided upon by late December 1972.

One other feature of the Corporation which had a large effect upon its actions was the presence or absence of the teacher who worked in Honiara. Although there was a board of directors who lived at Wanderer Bay, this man only returned every three or four months. His presence stimulated the activities and interest in the Corporation. Meetings and bazaars were held and policy was discussed and changed when he was present, but during the periods of his absence, the Corporation was little more than another trading store. While he provided positive leadership for the activities of the organization, this appeared to cause a reluctance in the directors to do anything unless he was there. This lack of strong leadership present in the village could cause problems for the Corporation in the future.

The Hawker-License stores in Wanderer Bay provide an important link between the non-monetary village economy and the monetized system of exchange which characterizes more developed areas. The fact that the stores appeared and have stayed at Wanderer Bay indicates that a transformation from the former kind of economy to the latter has begun.

Another form of business enterprise has occurred in Duidui under the direction and leadership of the district headman, with a variety of projects undertaken after a period of cash collection. The initial project in 1959 was the clearing and planting of a coconut plantation, for which \$153.50 was collected, generally in \$2 donations, and was in turn, paid to the persons involved in the clearing, planting and brushing of the coconut paddock. It was then decided that a store was a necessary adjunct to the coconut plantation and once again money was collected in order to purchase the initial stock of trade goods. This second collection netted \$118 for the store which opened for business in February 1961. Transportation between the Weather Coast and Honiara remained an inhibiting factor and the people felt that a coconut plantation without means to market their copra and a store without means to supply it would defeat their purposes. A locally owned and operated cutter was seen to be an appropriate and necessary project, for which a major fund raising effort began in late 1961. A total of \$1653 was raised, with \$1000 to cover the cost of the engine, and the balance to pay for the construction of the cutter. The cutter, the Kolochiri, was launched in mid-1962 and began making the trip from Duidui to Honiara, generally taking one and a half days each way.

During the four-month period, December 1965 through March 1966, the Kolochiri passed through Duidui on 15 occasions or approximately once a week. On these weekly trips, 22 persons travelled to Honiara from Duidui and carried with them personal belongings, seven bags of copra, five baskets of oranges, four baskets of root crops, and two pigs. The agricultural commodities were either sold in the Honiara market or taken to relatives living in town. On the return trips from Honiara, 47 persons were transported to Duidui, bringing with them a variety of goods including nine bags of rice, seven tins of biscuits, six drums of kerosene, and five bags of sugar. On eight of the trips to Honiara, no Duidui resident sent any agricultural produce and, although the Kolochiri did stop at other villages en route to Honiara, there was cargo capacity available out of Duidui. This was observed for Wanderer Bay and for the Solomons in general. In addition to the Kolochiri operating out of Duidui, there were 17 other ships/cutters stopping in Duidui during the same four-month period.

The Kolochiri continued to make the trip to Honiara, but the people wanted to build a larger cutter, for which another collection was made, raising $794. This was to pay for construction of the new cutter, the Ruth, for which they were able to use the engine of the Kolochiri. The Ruth was launched in 1967 and continued to travel between Duidui and Honiara. The people, led by their headman, have embarked upon an enterprise which includes the cultivation of an export crop, the provision of a store for the supply of basic trade goods, and the launching of two cutters in order to maintain a link with the Honiara market. A total of $2718.50 has been invested in these enterprises (see Figure 6.6). Whereas the cutter is still in operation, the store has deteriorated to where its stock consists of one box of assorted goods. The array of goods available in Duidui is less than for any of the other Weather Coast examples (see Table 6.45).

The social movement led by Moro and headquartered in <u>Makaruka</u> has, as one of its aims, initiated several economic development projects. Moro feels that his followers can attain their goals through a <u>kampan</u> (Pidgin English for group or company). Davenport and Coker (1967) state that the <u>kampan</u> means "working together, cooperation, joint ownership, strength through unity." Beginning about 1960, various monetary collections were undertaken and it was estimated that from $4000 to $6000 was collected for the Moro Custom Company in order to finance various economic ventures. One of the first plans was to establish a store, followed by the construction of collective piggeries, which it was felt, would give the inland people an opportunity to earn cash. A coconut plantation of about 20 acres was cleared and planted and a tobacco growing project was initiated. These projects were all undertaken between 1960 and 1965 but the ability to transport produce to market was still dependent upon the whims of the weather and government shipping schedules. "Moro has consistently not supported and even opposed" (Davenport and Coker, 1967:164) the construction of the Weather Coast road. It will be noted from Fig. 6.4 that the Marau and Avuavu segments of the road need to pass Makaruka before they can become contiguous. Some thought was given to the purchase of a ferro-concrete ship in 1972 but the project was never successfully concluded.

During the research period, there were two stores in Makaruka, one controlled by the Moro Custom Company and established a decade earlier, and the other a new store established in May 1972 and operated by the Roman Catholic Mission. Both stores have a paid part-time storekeeper, and in addition, the Moro Custom Company store has a paid part-time manager. Sales are usually made on demand, although after a shipment of goods arrives, the stores are kept open all day for two or three days, This would imply that stocks are depleted and that purchases must be delayed until they are replenished, which could in part result from poor ordering procedures and also from irregular shipping services. However, the Moro Custom Company store occasionally sends both employees to Honiara to purchase supplies, thereby causing the store to be closed for one to two weeks. In contrast, the mission store orders by mail, pays by check, and awaits delivery, which is still irregular. The array of goods available at these two stores is surpassed only by Hatare in the Weather Coast examples (Table 6.45).

The largest cooperative business effort along the Weather Coast is located in Hatare (Fig. 6.1) and is known as the <u>Hatare Community Development Association</u> (HCDA). Its purpose is to provide business investment opportunity to the people of southeastern Guadalcanal.

The idea of a business centered on a trade store was originally conceived by one man in an effort to gain respect and status. He approached six of the local Hatare leaders with his plan for a cooperatively owned store, informal discussions followed with other men in the community and it was decided to construct and stock a store. At this time, during the first half of 1970, copra prices were rising and there was strong desire to invest in a money making activity.

The six original leaders initiated plans for the selling of shares and the building of the store, with share purchase prices established at $A40 per male and $A10 per female. The purchase of a share is on an installment basis, with the prospective shareholder determining the amount and rate of payment. Table 6.47 indicates the rate of investment in the HCDA (See also Fig. 6.6).

Table 6.47

HCDA: INVESTMENT BY HATARE AND NON-HATARE RESIDENTS ($A)

Date	Hatare	Non-Hatare	Total
7-70 to 9-70	304.50	2.00	306.50
10-70 to 12-70	148.50	--	148.50
1-70 to 3-71	615.00	208.00	823.00
Total investment prior to opening trade store	1,068.00	210.00	1,278.00
4-71 to 6-71	318.00	145.00	463.00
7-71 to 9-71	373.00	101.00	474.00
10-71 to 12-71	236.00	30.00	266.00
1-72 to 3-72	161.00	114.00	275.00
4-72 to 6-72	45.00	40.00	85.00
7-72 to 9-72	20.00	28.00	48.00
10-72 to 12-72	--	--	
Total investment	2,221.00	668.00	2,889.00

Source: HCDA records

A total of $A1278 was invested prior to the opening of the store on April 1, 1971 and a total of $A2889 had been invested by the end of 1972. Shareholders, of whom 78 percent are from the Hatare area, are distributed from Poposa to Sukiki. Each of the 34 Hatare households has at least one shareholder, and 23 households have two or more, including shares in the names of children. The average investment per Hatare household is $A65.29.

The HCDA is not a government registered cooperative enterprise as the leaders did not want to be bound by various governmental regulations. Moreover, there are no written constitution or by-laws. A comparison of investment in the HCDA with average investments for government-sponsored cooperatives elsewhere in the Protectorate is shown in Table 6.48. In each category the HCDA far exceeds the average of the government-sponsored cooperative societies.

Table 6.48

COMPARISON WITH GOVERNMENT-SPONSORED COOPERATIVES

	Average per government-sponsored cooperative	HCDA		
		Hatare residents	Non-Hatare residents	Tot
Capital per member	$A9.23	$A23.37	$A24.74	$A2
Total capital per co-op	480.00	2,221.00	688.00	2,88
Membership per co-op	52	95	27	12

Source: HCDA records.
BSIP, 1971:95.

The HCDA is managed by a Board of seven men of whom four hold the positions of store manager, president, treasurer, and secretary while the other three are members. The terminology of the titles is definite but the positions themselves are not well defined.

Selection to the Board is based on geographic location and family groups: members of the Board are from within Hatare only and are usually from different villages, although two brothers act as store manager and president. Meetings of the shareholders are held every month, but are generally not opportunities for them to reach decisions concerning the activities of the association. Rather, the leaders tell what decisions have been made on behalf of the organization. This particular method of operation is acceptable for the most part, as the HCDA leaders are not only among the most educated people in the area, but have had a wide range of contact with people and institutions outside the community.

The HCDA consists of three different types of business operations: a trade store, copra and trochus shell marketing, and freight hauling.

The trade store opened on April 1, 1971 with a stock valued at $A1,208. An inventory for October 1972 was valued at over $A4,500. Between April 1971 and December 1972, average monthly sales were $A1,587 with a range from $A1,059 to $A2,172. The store is stocked with a variety of goods including canned food, housewares, and agricultural tools, while special orders may be made for higher priced items, such as bicycles, radios, and pig wire.

Financially the store has been successful since its inception. None of the association leaders had any previous business training although all had had some formal education. Other than the cost of trade goods, the biggest expense items are sea-freight charges averaging $A40 per month and wages averaging $A42 per month. Fairly detailed records[24] are maintained although the HCDA's leaders are not fully aware of how to interpret the information and,

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[24] Among the records maintained by the store are:

Quarterly financial statements	Invoices--paid and current
Daily cash sales register	Tractor--receipts of money paid
List of shareholders of HCDA	Tractor income book
Copra sales book	Tractor rates book
Check register	Wages book

consequently are not always able to make sound financial decisions. Record keeping is viewed as an introduced necessity, but not as a tool for managment.[25]

The marketing of copra and trochus shell is handled by the HCDA. Copra is purchased by the trade store and held in a locked storage house until it is transported to the wharf for shipment to Honiara. Average gross monthly copra sales income was $A609 from the opening of the store to December 1972 with a range from $A10 to $A1,771, the low point being a result of the drop in copra prices and hurricane damage. Gross profit on copra sales averaged 24 percent. Trochus shells are also purchased and account for an average gross monthly sales income of $A65. Trochus shell diving is one of the few commercial activities in which women are involved.

The gross sales income for 1972 from the trade store was $A20,978 and from copra sales was $A5,434. These sales compare with the average sales figures for government-sanctioned co-ops throughout the Solomons of $A2,400 in trade goods and $A1,600 in the marketing of primary produce. In 1971, the net profit of the HCDA amounted to approximately 15 percent of total sales or $A3,178 for the first nine months of operation, April-December 1971 (see Tables 6.49 and 6.50).

The third enterprise conducted under the auspices of the HCDA is the tractor freight hauling business. When the tractor was purchased in early 1972, the available vehicles on the Weather Coast were two Guadalcanal Council tractors, one government-owned Landrover, a privately-owned Datsun pick-up, and a privately-owned World War II vintage jeep. It was felt that the purchase

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[25] For example, a checking account is maintained by the store. All bills are paid by check and cash deposits made to a bank agency in Paruru. Other deposits are made by the Copra Board directly to the HCDA's Honiara account. However, the checkbook had never been balanced with the bank statement during the first 20 months of their operation, a period in which more than $A30,000 had been deposited. When the account was balanced, it was learned that there were errors totalling $A900 in the HCDA's favor.

Table 6.49

PROFIT AND LOSS ACCOUNT--HCDA AND GHARI CORPORATION

	HCDA			Ghari Corporation		
	1 April-31 December 1971			20 December 1971-20 December 1972		
Income From Trade						
Trade good sales		12,484.13			1,000.00	
Copra sales		6,649.41				
Shell sales		1,153.02				
Bazaar sales					53.00	
			20,286.56			1,053.00
Expenses of Trade						
Purchase of trade goods	13,248.99					
Stock at 31 Dec	2,757.67	10,491.32			793.00	
Purchase of copra	5,547.26					
Stock at 31 Dec	534.64	5,012.62				
Purchase of shell	617.04					
Stock at 31 Dec	35.68	581.26				
			16,085.30			793.00
Gross Profit			4,201.26			260.00
Other Expenses						
Building Costs	42.86			36.00		
Freight	369.28			30.00		
Wages-Normal	171.00			36.00		
Wages-Overtime	56.60					
Damaged Goods	12.25					
Store Uses	299.67					
Architect's Fees	50.00					
Copra sacks	54.80					
		1,056.46			102.00	
Unaccountable expenses		32.79				
			1,023.67			102.00
Net Profit			3,177.59			158.00

Source: HCDA records
Ghari Corporation records

Table 6.50

BALANCE SHEET--HCDA AND GHARI CORPORATION

	HCDA 1 April 31 December 1971	Ghari Corporation 20 December 1971- 20 December 1972
ASSETS:		
Cash on hand	493.28	80.00
Band balance		
Commonwealth Bank	1,387.67	40.00
A.N.Z. #1	200.00	86.00
A.N.Z. #2	--	166.00
Accounts Receivable	145.65	
Stock		
Trade goods	2,757.67	320.00
Copra	534.64	
Shell	35.68	
Total Assets	5,554.59	692.00
LIABILITIES:		
Shareholder's capital	2,377.00	534.00
Net Profit	3,177.59	158.00
	5,554.59	692.00

Source: HCDA records
Ghari Corporation records

of a tractor and trailer would enable the HCDA to deliver copra to the wharf for shipment, to pick up trade goods arriving at the wharf, to provide a new service in the form of a tractor for hire to local farmers and residents, and perhaps to provide a visual symbol to people of the association's existence.

The area along the road was divided into three sections and varying rates were established with the cheapest rate assigned to the area around Hatare. Rate schedules were assigned for the rent of the tractor service, for different cargo units, and for passengers.[26] Certain exceptions were made, for example, a woman carrying a full food basket or water jugs would be carried free of charge, and following traditional beliefs, a woman cannot ride during her menstrual period. This follows the local custom of a woman staying in a separate lean-to house, away from the family's main house, at that time.

In November 1972, nine months after its purchase, there was a proposal to sell the tractor. The reason given was that the tractor had cost $A3,680, yet it had only generated $A240 income, and therefore was too expensive a proposition for the HCDA. At a shareholders meeting, amortization and non-recorded tractor income were discussed. Once the tractor cost was amortized over a five-year period and values were assigned for the hauling of HCDA cargo and copra, the tractor operation proved to be operating at a break-even point. It was decided to keep the tractor.

One mile to the east and three miles to the west are the nearest competitors of the HCDA. Both operate trade stores and copra marketing facilities and one also operates a bakery. They are private enterprises, and both owners have purchased full $A40

[26] The rate schedule is:

Item	Area 1	Area 2	Area 3
Tractor hire	$6.00	$8.00	$10.00
Copra, bagged	.20	.30	.40
Pig	1.00	2.00	2.00

Area 1--Hautahe to Waimaea; Area 2--Waimaea to Sanggasere; Area 3--Sanggasere to Balo/Sukiki (Fig. 6.4) shares in the HCDA. Neither views the co-op as a threat to their own enterprises, but rather as an indication of the economic growth of the area. The fall in copra prices had a far more deleterious effect on their attitude.

Within nine months of the opening of the trade store, an attempt was made to purchase a store in Honiara, on the basis that having a Honiara "branch" would enable the store to avoid the middleman in obtaining supplies and that this would yield greater profits. It was decided that lack of capital precluded a second store at that time, but later in September 1972, the HCDA investigated the leasing of a warehouse in Honiara. An annual lease would have cost $A480, but another firm leased the warehouse before they were able to travel to town. Another attempt was made to secure a business and an interest was indicated in purchasing a store in the Protectorate's capital along with another piece of property. A request was made to the Agricultural and Industrial Loans Board (AILB) for a $A19,000 loan to make the purchase possible. The loan request was rejected because the AILB felt there were too many small trade stores in town, thereby limiting profit potentials, an attitude which is consistent with its commitment to rural development.

In 1971, the HCDA wanted to extend its services at the local level by opening a retail beer outlet. Its request for a license was denied for lack of a building constructed of permanent materials in which to store the beer, and because of the lack of police officials in the area. There were also objections to a bar from some local residents because of possible behavioral problems.

The largest single item purchased by the HCDA was a Massey Ferguson tractor and trailer in March 1972 for $A3,680. A $A2,000 down payment was made with the balance to be paid over a 10-month period although payment was completed within seven months.

In January 1973, the HCDA purchased a car for $A1,768, with plans for a young Hatare man living in Honiara to operate a taxi service there.

There is a definite tendency for the HCDA to look to Honiara as a place to use their accumulated capital, which is understandable as Honiara is the major commercial area in the Solomons. Younger members of the HCDA feel that other possible rural development opportunities include the purchase of a freezer for storing and selling meat and fish; a fiberglass canoe and engine for fishing purposes; or power saws for the clearing of land and possible rough cutting of timber.

The need for a single full-time manager of the HCDA is apparent to both shareholders and the board, and they are willing to pay a monthly salary for such a person. An educated person is desired and they thought they had one in a young man of Hatare who was to complete a Form II education, except that after completing school, he chose to remain in Honiara to work.

The Hatare people have shown an interest in activities that would improve their level of living but they lack full knowledge of how to proceed.

There are difficulties in comparing this variety of trade store activity. One method, other than total sales or inventory value, is the cost of goods to the customer. Table 6.51 presents a range of prices at four Weather Coast stores, one Honiara supermarket, and the suggested selling prices for the Central Cooperative Association. The items selected for comparison are significant only because they were all available at the four Weather Coast sites. As one would expect, the Weather Coast prices are higher than the Honiara price, with Makaruka prices ($A2.00) almost 50 percent higher than Honiara prices ($A1.37). The Makaruka and Aona ($A1.92) prices were the highest which is, in part, a reflection of their greater distance, by sea, from Honiara and their relative inaccessibility.

The price differentials between the Weather Coast locales and the Cooperative Association's suggested prices are of more concern from a consumer's standpoint, although it should be noted that the latter's price list did not take into account any freight

Table 6.51

RETAIL PRICES, SELECTED STORES, 1972

Item	Sughu	Aona	Makaruka	Hatare	Honiara Super-market	Co-operative Selling price
Rice, lb	.25	.25	.25	.14	.10	.12
Sugar, lb	.20	.20	.20	.20	.12	.12
Salt, lb	.20	.14	.20	.20	.12	.12
Biscuit, 4 each	.10	.13	.10	.10	.10	.10
Soap, 4 bars	.35	.40	.40	.40	.33	.40
Matches, 2 boxes	.05	.05	.05	.05	.04	.04
Mackerel, 15 oz	.30	.40	.40	.30	.26	.30
Luncheon meat, 12 oz	.35	.35	.40	.30	.30	.34
TOTAL	1.80	1.92	2.00	1.69	1.37	1.54

Source: Field notes

charges, the inclusion of which may be enough to eliminate significant price differentials. Another pricing difficulty at the rural stores arises from the tendency to avoid the use of the one-cent or two-cent piece, in favour of "rounding-off" a price to five or ten cents.

It is apparent that business enterprise along the Weather Coast, as described at four locales, does not fit a stereotypical mold. Trade store operations range from the low turnover, minimal stock, family-operated store to the relatively high-valued inventory of a community-operated store. There is obviously a certain amount of business experience being gained by the people and this is utilized in more sophisticated financial and organizational enterprises. The Hatare store has offered more than a few metal tools and food items, and the people have responded by purchasing bicycles, radios and pig wire. From the standpoint of rural development, both the Ghari Corporation and the HCDA are attempting to provide employment for young school leavers.

Of particular interest are the forms of leadership shown in the business enterprises at Duidui, Makaruka, and Hatare. In Duidui, the leader of their various enterprises is a traditional Melanesian big man, who is using Melanesian customs and interpersonal relationships together with business techniques and relatively large amounts of cash, to attempt to develop an integrated business enterprise. He is providing the view that a single business endeavor, such as a trade store, cannot easily survive in an isolated rural area. Therefore, the coconut plantation, the trade store and the cutter have all been developed with each complementary to the others and helping to support the whole enterprise.

The Makaruka example is similar, to a point, because of the cultivation of various agricultural commodities, the development of a trade store, and the marketing of copra. The transportation link between this rural area and Honiara is still not fully developed. Both the Duidui and the Makaruka enterprises are led by strong individual leaders. In economic terms, one of the main differences is that the Duidui leader has contributed more than half of the cash to their fund raising efforts, whereas the Makaruka leader has accumulated large amounts of cash in small denominations from a great number of people. In some respects the Makaruka case, again in economic terms, appears to be an example of transitional leadership.

The Hatare example is also an integrated business effort composed of the trade store, with its great array of goods; the agricultural marketing services it provides; and the tractor-trailer, which enables them to serve the people living along the road. The leadership of the HCDA is much more diffused than the Duidui and Makaruka examples. The traditional leadership of the community is giving way to the new leaders: the men who have had formal education, the men who have had wage employment in Honiara, and the men who are developing their own lands by their own work and with the assistance of government subsidies.

In both Duidui and Hatare, a similar amount of money was raised for their respective enterprises: in Duidui \$2718.50 and in Hatare \$2889. The sources of this money are very dissimilar as shown graphically in Figure 6.6 and according to the village of the contributor. In Duidui \$1578 or 58 percent of all the cash collected came from one person, the district headman and leader of the business enterprise. In Hatare, 78 percent of the shareholders come from Hatare, an area of 15 villages. The largest single contribution was for \$360 and that came not from an individual, but from the Community Association, a labor cooperative to which all Hatare households belong.

Table 6.49 and 6.50 present basic financial information on both the HCDA and the Ghari Corporation. Neither enterprise is led by persons who would be considered as traditional leaders, both were started in 1971, and both locales are served by an all-weather anchorage. The contrast between the magnitude of their financial operations and possibly the imagination of their management, is striking. The HCDA, of course, reflects what can occur in rural area when a wide range of the factors of production are available. Regular shipping to Honiara is available, a road passes through the area, land is available to plant coconuts, government services such as agricultural extension are readily at hand, and there is an inflow of cash from wage employment from both private and public sources.

Chikora Case Study

This study represents an attempt to assess the impact on one of its more isolated areas, of the first expatriate company to locate on the Weather Coast. Although the operation of the Utah Development Company at Chikora was, in its own terms, small in scale, its impact on the surrounding area has been much greater, with the injection of foreign economy and values into a former stronghold of traditional patterns. Whereas previously the influence of the outside economy was felt most by males who left the area to work for wages, the emphasis has shifted to the home territory, the family and the land. The very presence of the Company in the area, as well as its activities, has had wide-ranging effects.

By the late 1960s, prospecting at a number of sites in the area had suggested it as the most promising in the search for copper ore, and accordingly in 1969, a base camp was established in the interior of the Koloula Valley at Chikora. Situated near the headwaters of the valley, Chikora is on a hilltop about two and one half to three hours walk inland. Due to the remoteness of the area, the rugged terrain and the lack of any roads except footpaths, much of the cargo for the camp was brought in by helicopter or carried up from the coast by the local people. The rainfall at the head of the valley where the camp is located is high and at times the camp is isolated from the rest of the valley by flooding. The combination of isolation, physical intractability, almost continuous rain, and the likelihood of disastrous floods (see Chapter 5 and Fig. 2.11), make for somewhat less than ideal conditions. Located on land claimed through custom by the people, the company began operations with a one-year lease in 1969, renewed that lease in 1970, and finally negotiated a five-year lease in 1971. The lease permits only the investigation of ore, and must be renegotiated in the (now unlikely) event of enough being found to warrant a mining operation. It was divided into several segments that dealt with rent, compensation, wages and other matters.

The land on which Chikora is located (1.6 acres) is claimed by two individuals to whom rent was paid in the amounts of $A7.50 and $A2.50 on a bi-annual basis. Activities of the camp were paid for on a compensation basis, as for piece work, as shown in Table 6.52. This compensation was paid quarterly, in equal portions, to the two lines in the valley, Manukiki and Garavu. The money is accepted by representatives of the landowners (Table 6.52) who deposit it in a Honiara bank account, to be used for the future benefit of the line. One possibility being considered, was the education of young members of the line. The total inflow for the period October, 1969, to January, 1972, was estimated at $A830.

Although some trained help was brought in from outside the Weather Coast, most of the labor for the camp came from the valley and surrounding regions. The emphasis was on the employment of valley men, with only a small proportion from other nearby areas, although in December 1972 there was a move to broaden the base of the labor pool and help to develop support for the company by accepting employees from a wider geographical area. This would also help to broaden the area touched by the inflow of capital.

At the time of the project the labor force at the camp totaled fifteen local employees (Fig. 6,7), one European, and one to two Melanesian Geological Assistants. However, this force is not constant and has varied from almost thirty local employees to fifteen or less, and from several Europeans to the present one.

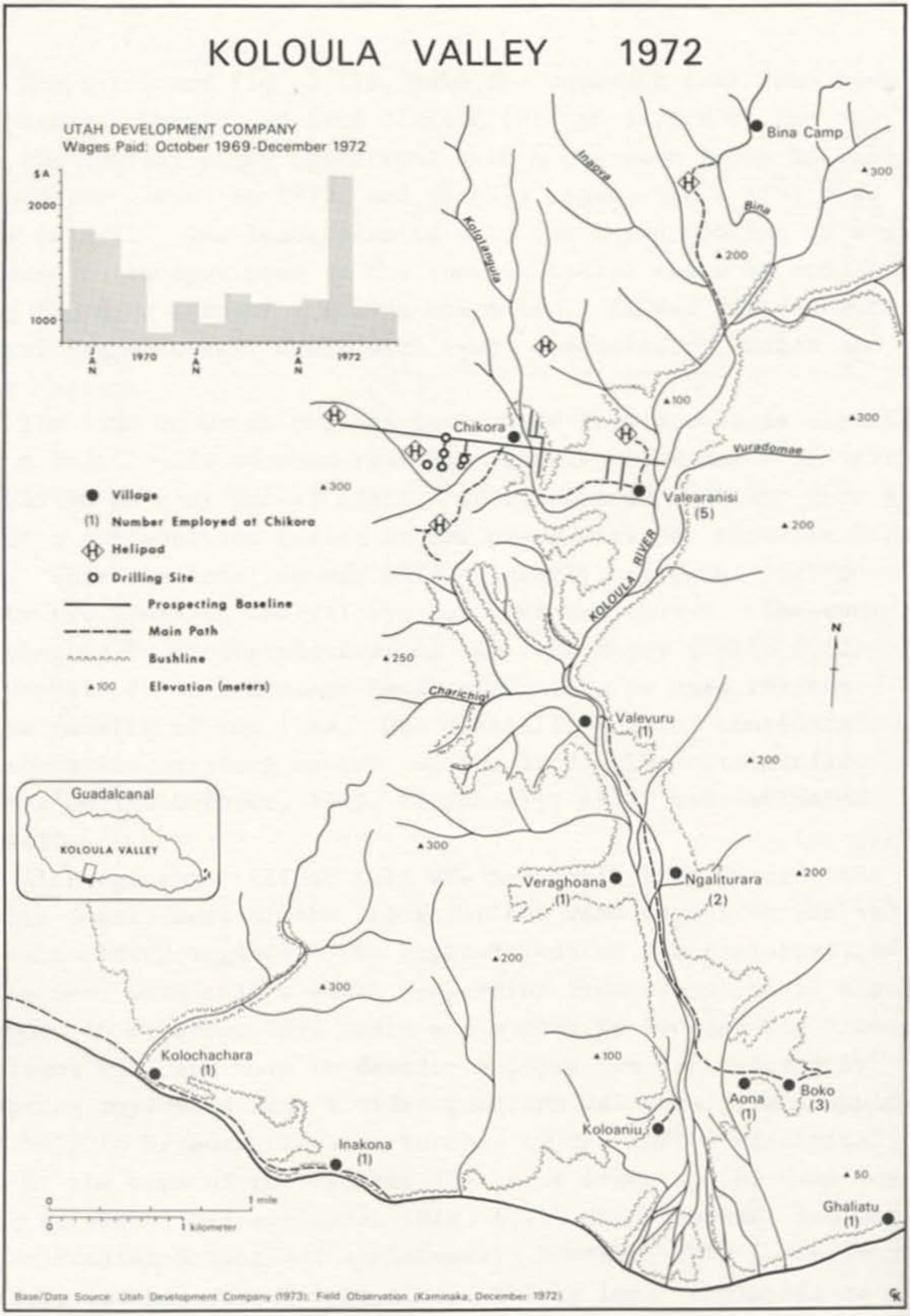
KOLOULA VALLEY 1972
UTAH DEVELOPMENT COMPANY
Wages Paid: October 1969-December 1972
$A
2000
1000
JAN
1970
JAN
JAN
1972
Village
(1) Number Employed at Chikora
Helipad
Drilling Site
Prospecting Baseline
Main Path
Bushline
Elevation (meters)
Guadalcanal
KOLOULA VALLEY
Bina Camp
Inaova
Bina
Kolotangula
Chikora
Valearanisi
(5)
Vuradomae
KOLOULA RIVER
Charichigi
Valevuru
(1)
Veraghoana
(1)
Ngaliturara
(2)
Kolochachara
(1)
Inakona
(1)
Koloaniu
Aona
(1)
Boko
(3)
Ghaliatu
(1)
N
300
200
100
250
50
0
1 mile
1 kilometer
Base/Data Source: Utah Development Company (1973); Field Observation (Kaminaka, December 1972)

Figure 6.7

Table 6.52

COMPENSATION PAYMENTS

Compensation payments to be made by the Company, to be divided equally between Manukiki and Garavu lines (representatives shown below) as and when the following occur:

1) For every site drilled $10.00
(any number of holes)

2) For every helicopter pad constructed . . . . . .$10.00 +
$1.00 for every year it is used thereafter.

3) For every kilometer of cut line
1st August, 1971 - 31st July, 1972 . . . .$1.75
1st August, 1972 - 31st July, 1973 . . . .$2.00
1st August, 1973 - 31st July, 1976 . . . .$2.25

4) For the destruction of the following mature trees:
taluva $2.00
Kara'a $1.00
Maholia. . . . .$ .50
Banana (Per stool) . . . .$ .50
Pawpaw . . . .$ .75
Pineapple (per plant). . . . .$ .25
Betel nut palms. $1.50
Bread fruit. $2.00
Ivory nut palm $4.00
Citrus lemon orange. $3.00
Kalaku (Pandanus). $1.00
Bamboo (per clump) $1.00

Date 28th July, 1971 Signed by Company Representative

Representatives of Land holders to receive compensation payments:

Toganani	Sanga of Kolochachara	Garavu
	Jonas Bulangi of Kolochachara	Manukiki
Koo	Tigi of Koo	"
	Viviu of Koo	Garavu
Koloula	Mark Asi of Aona	Manukiki
	Appollus Reveli of Aona	Garavu
Ghaliatu	Kavaro	)
	Diki Pana	) Manukiki
	Damiano	)
	Pasikale	)
	Chuki	) Garavu
	James Vuaruka	)
Viso	Same as Koo except for area close to mouth of Viso River.	

<u>Alternates for Koloula</u>

	Seve of Valearanisi	Garavu
	Abednigo of Veravolia	Manukiki

Source: Utah Development Comapny.

Diamond drilling at the site in 1973 was expected to increase the labor force to approximately thirty men.

The period of employment varied with the company's need and the skill of the employee, ranging from one week to three or more years. A rotation of labor was part of the company's policy, though not uniformly carried out or officially established. The valley leaders requested a three to four month required rotation of labor with the idea of spreading the wealth from employment a little more evenly, but this had not been instituted by December 1972, and did not look likely. Though highly desirable from the local point of view, the strain of using a constantly shifting labor force would be burdensome for the company.

Wages and rations constituted the major portion of the economic input to the valley. A normal work week consisted of five days at eight hours and Saturday morning for five hours. The wage of an unskilled, new worker began at $A.55 per day, while that for the most skilled and capable reached as high as $A.85 per day. The few with top pay generally filled the post of "Boss Boy" and were highly regarded for past experience and work. Overtime of $A.12 an hour was paid for each hour worked beyond eight hours per day. Saturday morning was considered part of the work week but an overtime of $A.20 per hour was paid if work continued beyond five hours. Sunday was normally a free day as most of the workers attended church, but if work was considered necessary the wage was $A2.00 for eight hours of work. The high wage reflects the dislike of the local men for working on a religious day. No work was required when it rained, and as this was often, work was slower than would have been accomplished in better weather.

In addition to the daily wage, each man received a weekly supply ration, which in 1971 was valued at $A3.82 per week per man or $A.64 a day per man. An equipment issue was also made periodically. Thus the total wage received by each man was substantially higher than would appear from the basic scale (Table 6.53).

Carrying cargo from the coast to the camp and sometimes within the valley itself also offered a way for the villagers to make money, which although not regular, amounted to $A704.00 in a nine month period. The rate of carrying ranged from $A1.50 to $A2.00 for the heavier items, and the work was divided between saltwater and bush people on an alternating basis.

Another, less important source of money was the small-scale selling of leaf and produce to the camp. The construction of seven buildings called for an initial large amount of leaf. Repairs to these structures formed a continual if erratic source of income. Leaf was bought at the rate of $A.75 per bundle, including the price of carrying, but not the sewing which was charged at $A.10 a panel. Initial building construction was also hired out to the local people, with price determined by the size and type of structure. On a much smaller scale some fresh produce, consisting mainly of citrus and other fruits, was sold.

Other advantages stemming from the proximity of the camp ranged from helicopter use to medical aid. Although a helicopter was not continuously in use, when available it could be used by employees as a normal part of the supply chain, the most common practice being the placement of "Boys Orders". Under this system, the employees of the company could order goods from Honiara through the company, paying the Field Geologist in advance at the site. The order was then sent to Honiara, bought and packaged by a company man and returned on a later flight. Freight was charged by the company at $A.50 per large bundle but this was as low or lower than the rates of boats in the area, more dependable and much faster. Orders could be placed without fear of loss or damage, or of freight charges being prohibitive. The system also eliminated the need for a man to accompany the order as is normal on a boat, thus saving the fare to Honiara and back, or $A4.00 per person each way. A typical order contained

Table 6.53

CHIKORA: WAGES, RATIONS AND EQUIPMENT

1) Basic Pay Scale
   $ .55 a day basic
   .85 a day high
   Bonus
   $1.50 per month/per man depending on quality of work
   Overtime
   $ .12 per hour ordinary
   .20 per hour Saturday
   2.00 for 8 hour day on Sundays

2) Food per week as of 23/7/71

Rice	1 bag per 6 men	9-10 lbs. per man	$1.17
Biscuits	1 tin per 8 men	35 a week per man	.96
Sugar	1 bag per 35 men	2 lbs. per man	.45
Tea		1/4 lb. per man	.25
Meat)	3 tins a week	2 per man	.56
Fish)		1 per man	.25
Soap		1/2 bar per man	.11
Matches		1 box per man	.02
Milk (Dry)	1 tin per 8 men		.05
Salt	as required		
		Total	$3.82

Six working days a week, 45 weeks, 8 hours a day and 5 hours on Saturday.

Date 24/7/70 = $ .51 1/2 a man per day = $3.09 per week
23/7/71 = $ .64 a man per day = $3.82 per week

3) Equipment issue:
   One blanket*
   One fathom calico*
   One pair sandals*
   Knife, Fork, Spoon
   Plate
   Cup

*reissued every six months of emplo[yment]

Source: Utah Development Company

foods (rice, tinned fish, bread, lollies) and assorted household and luxury goods (baby powder, razor blades, blankets, guitar strings, sleeping mats). As much as $A50.00 of a $A150.00 pay period might be spent on such orders.

The company also helped to provide medical services to the valley and nearby areas, with the helicopter often used as a means of evacuation in an emergency. At least four persons were evacuated to a hospital in Honiara during the three month research period, and previous evacuations were recounted. This was provided as a service by the company. No dresser was present during the research period although a medical clinic had been established at Chikora at the beginning of 1970, with food and accommodation provided by the company, as was one-half of his pay. With the renewal of diamond drilling and the increased employment of men, the clinic was re-established at the beginning of 1973. During the interim period, the Field Geologist was supplied with a medical box and was able to treat cases. Medical evacuation was based on his judgment as to the nature of the case.

From the above discussion of monetary inflow, it is evident that the company's presence contributed greatly to the capital available in the area. For the period of October, 1969, through December, 1972, the following estimates of input were made: (Table 6.54).

Such quantities of capital obviously had a great impact on an area where previously it was necessary for men to go away in order to find wage employment. But while the monetary flow is readily discernible, the social impact of an overtly foreign enterprise is more difficult to assess.

It seems certain that one outcome of the company's presence has been reduced out-migration for wage labor. Within the valley, 46 male heads of household were surveyed, of whom all had been away from the Weather Coast for wage employment. Twenty-nine (63%) had had mining experience, 60% with Utah and 28% with

Table 6.54

ESTIMATE OF CAPITAL INPUT, 1969-72

	Total	Quarterly Average
Wages, Rations, Carrying	18,053[a]	1,289.50
Compensation	830	59.28
Leaf, Market Crops, Sundries	911[b]	65.05
Total	19,794	1,413,83

[a] See break-down by quarterly period, below

[b] Full figures were not available here. A total for a nine month period was taken and expanded to reach this figure.

WAGE EXPENDITURE OCTOBER, 1969 THROUGH DECEMBER, 1972

PERIOD	WAGES EXPENDITURE ESTIMATES ($A)
October 1969	1100
November 1969 - January 1970	1788
February 1970 - April 1970	1702
May 1970 - July 1970	1397
August 1970 - October 1970	880
November 1970 - January 1971	1154
February 1971 - April 1971	957
May 1971 - July 1971	1232
August 1971 - October 1971	1144
November 1971 - January 1972	1122
February 1972 - April 1972	1166
May 1972 - July 1972	2244
August 1972 - October 1972	1100
November 1972 - December 1972	1067
	18053

Source: Field notes; Utah Development Company.

another company. In addition, 92% of the latter group had also been employed by Utah. Eleven of those interviewed (23%) were working for the Utah Company at that time, or 11 out of 15 employees.

Of the 46, 40 were able to describe both the type of work done and the time (years and months) spent. A total of 212.9 working years had been accumulated, averaging 5.3 years per man. The shortest time of employment was two years, while the longest was twelve. Of these years, 72.5 were accumulated by persons who had never been employed by Utah, while 140.4 or 66% of the total was accumulated by past and current employees of the company. Twenty-two percent of this time was spent working for Utah, or 31 working years. The average was 1.19 years of work for the company per individual. Of all work years, 14.5 percent had been spent in the valley, none of which was possible prior to 1969. The actual time employed varied considerably, with the average term of persons employed at the time of survey being 4-5 months, or a range from one month to three years.

It seems certain that the prospect of local employment was preferred over out-migration for employment as many men expressed their liking for work at the camp, and some even asked the researcher to suggest to the Field Geologist that they would like to be employed or re-employed.

The coming of the mining camp did not cause a great shift in population in the valley, which had a total of 623 in 1972, divided among 16 villages. However, whereas the pre- Chikora count of population in Valearanisi (the closest village) was 30 in 1965, by 1972 it had become 70, an increase of 133 percent. Natural increase and normal migration would account for some of the increase, but the people themselves said that the proximity of the camp was an incentive to locate in the village. Of the 15 men employed by Chikora at the time of the survey, 5 were from Valearanisi. These men had the advantage of being closer to their work and therefore more available. The distance from home to work (Fig. 6.7) allowed them to return home each night while the others stayed in camp for six nights of the week. They were also within easy reach of medical aid and closer to the transport for "boys" goods. This cut down on the carrying of goods between home and source. Whenever a man asked someone outside his family carry for him it was necessary to pay a wage, which increased with distance.

Of the five stores in the valley two were located in Valearanisi, and three were owned by men who were or had been employed at the camp. The presence of these five stores in an area with no cash cropping and only casual local selling of crops may attest to the rate of expenditures for the area.

As the valley people were strong supporters of Moro, one of their fears was that the young people, going away for education and work, would drift away from the valley and the land. This problem was not solved by the Utah Company, but its presence did offer an alternative to those seeking employment. However, there was also a fear that the company would steal the land from them if a mine were established. Another fear was the possible destruction of the land so as to make it agriculturally unproductive. The majority of those people had no desire to leave the valley or to stop farming as they have always done. The movement back to the land was strong and might have outweighed the desire for Western goods and products that a mine could supply, had it eventuated. An often sited evaluation of the situation was the acquisition of the Avuavu Mission land for the price of a crate of empty bottles, with a fear that this could happen again. This fear of being cheated of the worth of the land is understandable, especially as there is little grasp of the value of minerals or knowledge of the British mineral rights laws. The people consider the copper, as well as the land, theirs.

At the time of the project, relations between the people and the company were good. Unlike the Kuma River Valley people, who would not allow prospecting, the Koloula people were relatively content, with no apparent fears of the low-level operation which then existed, but some fears for the future. The few problems were with the level of payments then in existence, which is a normal problem in most monetary/work exchanges. Economic prosperity and social effects remained at a tolerable level for the villagers. Changes on a small scale were evident but did not appear to affect the very basis of the society. Subsistence agriculture continued to be the predominant means of livelihood.

Although there is no longer a threat of disruption by the introduction of full-scale mining operations to the Koloula Valley, some of the possible effects might well have implications for similar situations in other parts of the Solomons. For example, though difficult to predict, the effects of a road and large quantities of imported labor, as well as an even greater input of cash and capital, could be as disruptive to the social system as the mine would be disfiguring to the land. Consideration for the social well being of the people whose homes and way of life will be affected, should be carefully weighted against the apparent economic advantages of a project, with the speed of innovation perhaps tempered to permit social adjustments and, eventually, greater acceptance.

Overview

The Weather Coast is isolated in relation to the political and economic center of the Protectorate in Honiara and on the Guadalcanal plains. The steep topography, the lack of suitable agricultural land, the heavy rain, the numerous river valleys and the rough seas have all contributed to its isolation. However, some 8000 people do live, work, play and interact along the Weather Coast, and an exchange of ideas, goods, and people between the Weather Coast region and other parts of the Solomon Islands existed prior to the British declaration of a Protectorate.

The post-war impact upon the accessibility of people within the Weather Coast region and between regions has been dramatic. Increasing amounts of money have been available for social and economic purposes. A transportation network is developing, with improved shipping services, three road segments totalling almost thirty miles, and three small airstrips.

Government services are available in a wide variety of fields on a fairly regular basis. All Weather Coast houses have been sprayed with a DDT solution for malaria control, and rural health services are available in several districts. Agricultural extension personnel are stationed along the Weather Coast and the government coconut and cattle subsidies are being utilized, particularly in the districts of Marau, Moli, and Avuavu which have access to a road. The Weather Coast male has long sought employment in other parts of the Protectorate and overseas. Employment opportunities are now available on the south coast and include work as laborers on various public works projects such as road and airstrip construction. There is also employment available to teachers, health workers, agricultural workers, and radio operators. Additionally, locally owned business enterprises are employing storekeepers, cutter operators, and tractor drivers.

The people are interested in business enterprises modified to conform to Melanesian standards, and relatively large amounts of money have been collected from the relatively low-income districts of the Weather Coast. The disposition of this accumulated capital presents some problems, and it does not appear that government departments have taken advantage of this ability. However, the Agricultural and Industrial Loans Board (AILB) has created the position of Projects Officer for a person representing both the AILB and the Department of Agriculture to visit the rural areas to plan and evaluate agricultural development projects for possible loan agreements. The creation of a group of advisors for small business is also being developed by the government and staffed in part by Peace Corps volunteers (BSI News Sheet, 1974:15:4

The government, while attempting to assist rural-based development, also may have acted as an unwitting competitor to rural business enterprise. The people in the southeastern area of Guadalcanal responded to the lack of shipping services of the late 1950s by building cutters and purchasing engines. As the local cutters increased in number and frequency of service, so did the government ships. Although it has been a policy of the government not to compete with private shipping since 1966 (LCD, 1970--2:74), there is an excess of cargo capacity on ships travelling to Honiara. Government ships may well have reduced the cargoes available to local cutter operators and it is one of the likely reasons for the Ruth to be remaining on the Duidui beach. In Hatare, the HCDA purchased a tractor to use for their business needs and to carry produce for farmers living along the road. However, there are two Council tractors that make frequent trips along the road. On many occasions the Council tractor carried people and produce to Manikaraku at no charge thereby causing the HCDA to cancel their scheduled twice-weekly trip to Balo.

The amount of time spent on work-related activities is similar in many Melanesian communities, and there is a suggestion that leisure time does have an important premium in Melanesian societies and is necessary to social relationships. If time is to be devoted to cash earning activities, either cash crop production or wage employment, the time spent in subsistence production will be reduced.

A great deal of time, effort and money has been expended during the past 25 years and much has been accomplished in relative terms. There is still, however, a great dependence upon one project or one man and cessation of activity on a single project or withdrawal of one man can have serious implications. The withdrawal of the Utah Construction and Mining Company from the Koloula valley means the loss of the source of a cash inflow into the valley. The suspension of work on the Weather Coast road in April 1973 for four months reduced the wage inflow in the southeastern portion of Guadalcanal. The absence of the leader of the Ghari Corporation in Honiara resulted in a suspension of that enterprise's innovations in Wanderer Bay. Therefore, there is a continuing need to achieve greater depth in the development of the Weather Coast. As indicated, a small proportion of the Weather Coast farmers is selling crops in the Honiara market place, be they root crops, chillies, or copra. The network connections between the Weather Coast and the rest of the Protectorate must continue to expand in order to reduce its districts' dependence upon one man or one single project.

Chapter 7
PRIMARY EDUCATION

Numerous recommendations have been made by many authorities about the direction that policies on education should take throughout the Solomons. The aim, in this chapter, is to illuminate these recommendations by a detailed study of two primary schools in the Tina River Valley (Fig. 2.1), set within the context of both the Protectorate's educational structure and the pupil's home environment. To this end, observations about two schools follow a brief description of the overall educational structure and their implications suggested by successive discussions about teacher and parent interviews as well as local methods of child rearing. Out of this range of information, a final section considers whether current education policy, as exemplified by two schools, is consistent with and approporiate for the goals of Weather Coast people.

As stated in the 1967 White Paper on Educational Policy (BSIP, 1967), the long-range goal of the Department of Education is to provide universal education through to Standard 7. Since the funds and manpower available are inadequate to realize this goal in the foreseeable future, current efforts are directed towards providing Junior Primary education for all children, Senior Primary education for half of those who complete the previous level, and Secondary education for 25 per cent of Senior Primary graduates. The rationale for these objectives is continued growth of commercial, church and government activities throughout the Protectorate and for an increasing number of Solomon Islanders to assume positions of increasing responsibility and skill. The role of the schools, then, is to provide young people who have the character, ability, and qualifications to assume these positions.

*By Keri Freeman

The earliest schools in the Solomons resulted from missionary activity but, with the gradual development of centralized administration, there was a need for educated Solomon Islanders whose education went beyond preparation for service to the church. An increased demand for a broader education has led to todays situation in which mission schools provide most of the primary education, under government subsidy, while senior primary and secondary education occurs primarily in government schools. In the past decade, schools have also been established by local government councils and private organizations like expatriate commercial concerns. The formal school system comprises primary, secondary and vocational education. Junior Primary and Senior Primary schools consist of Standards 1, 2, 3, 4, and Standards 5, 6, 7, respectively, while secondary education is a five-year sequence of Forms 1 to 5. After completing Forms 1 and 2, secondary student can choose to continue with academic courses or enter vocational training or technical schools.

Catechist, religious, and village schools, also exist but are not part of the formal education system. Catechist schools have the singular purpose of providing two to three years of comprehensive religious and English training necessary to lead village congregations. Religious schools are taught by catechists, and closely parallel the European church (or Sunday) school held once a week for children. Some villages, upset by the lack of local schools, have attempted to establish them without the help of government or the various churches. These are usually led by a villager who has learned to read and write and who teaches nearby residents. Despite lack of professional training and equipment, village schools normally result in their students being able to read the Bible and prayer books; some eventually become government or mission schools, and receive an official subsidy.

A recent development is the rural training center, first initiated by the Guadalcanal Council on Santa Isabel (Fig. 1.1). Their purpose is to provide primary school graduates with skills which are more relevant to village life, such as outboard motor mechanics, woodwork, and agricultural practice. In July 1973, the Guadalcanal Training Centre was established at Tangarare (Fig. 2.1) and 30 students, some of them from the Weather Coast, began an intensive, six months course of study in mechanics, carpentry and agriculture.

In an attempt to standardize the quality of education, the administration in the fall of 1972 moved to unify all church, local council and government schools under a system of joint rule. One advantage of centralized government control will be to eliminate the need for children to travel great distances to a school of their own faith in preference to attending one nearby because it is controlled by another church (see section on Weather Coast schools).

Irrespective of school authority, the financing of schools is based upon a system of scheduling in which the size of government grant received is proportional to the number of both trained teachers and pupils enrolled:

1. Teacher subsidies are paid to all trained teachers according to level of training;
2. Grants for books and materials, at the rate of A$2.50 per pupil, are paid to all classes that have trained teachers;
3. A boarding subsidy for senior primary students is provided at the rate of A$25 per boarder per year, but there is no allotment for junior primary pupils who board, away from home.
4. Newly established senior primary classes receive an initial grant of A$100 per class (BSIP-ED, 1970; Priestly, 1972).

To be eligible for government subsidies, a school must conform to regulations publicized by the Department of Education about age guidelines for each standard, hours of class time, syllabus, size of premises and classroom facilities (BSIP, 1967:7). Schools which do not qualify for scheduling are classified as either "registered" or "exempted". A registered school meets some of the ordinance provisions and may receive government assistance to reach the minimum standards of scheduled status, subject to available funds and the amount of up-grading required. Exempted schools, those established by villages, fall considerably below the standards the Departmentof Education considers acceptable. They receive no aid or recognition and are viewed by some administrators as a threat to quality education within the Solomons.

The replacement, in 1967, of the previous designation scheme by a system of scheduling was an attempt to ensure financial assistance to a greater number of schools. Designation had required quite high capital expenditure on facilities for schools to qualify for government assistance, but in late 1972 lack of funds forced the Department of Education to temporarily halt scheduling (Priestly, 1972).

The system of grading teachers is based upon the amount of professional training, which in turn determines the class levels qualified to teach and the amount of government subsidy received. The qualifications for different grades are:

Grade IV - untrained primary school teachers;

Grade IVT(trained) - minimum completion of Standard 7 and six month teacher training course at the British Solomons Teachers Training College; qualified to teach Standards 1 or 2;

Grade III - completion of both secondary schools to Form 2 and three year, teacher training course; qualified to teach Standards 1 to 7;

Grade II - training the same as Grade III, but must satisfy more stringent standards which usually entails additional courses of study; qualified for Standards 5 to 7;

Grade I - overseas university education; qualified to teach secondary school.

The Training College not only provides professional training but also developes and produces curriculum materials, such as the syllabi and notes used in primary schools.

Curriculum and Syllabus for Junior Primary Schools

The Junior Primary Schools curriculum consists of English (oral practice; reading; handwriting; written expression), Mathematics, Social Studies, Science (nature study), Health Science, Arts and Crafts, Physical Education and Christian Education. The total teaching time recommended each day by the Department of Education is four hours for Standards 1 and 2 (Tables 7.1 - .2). The amount of time spend each week upon the eight subjects taught reveals their relative importance in the curriculum: for Standard 1, 35% is devoted to English and 25% to mathematics, with the remainder divided among the other six subjects. By Standard 2, English consumes half of the weekly class time and mathematics a further quarter. In Standards 3 and 4, the Department recommends increasing the daily teaching time to four and three quarter hours, with the additional forty-five minutes each day devoted to Social Studies and Science,[1] (Tables 7.3-.4).

English

The Tate Oral English Course in wide use throughout the Pacific Islands where English is taught as a second language, is the core of the English program. Reading, handwriting and written expression are based upon its format and vocabulary. Oral English lessons use techniques of situational teaching, since carrying out the action or displaying an object or picture while saying the words is a basic premise of Tate. For example,

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[1] Calculations are based upon the time allotments for subjects recommended by the Department of Education for junior primary classes (Tables 7.1-.4). The figure for English includes Tate Oral English, Pre-reading or Reading, Handwriting and Written English.

Table 7.1

OFFICIAL RECOMMENDED TIMETABLE FOR STANDARAD ONE CLASSES

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Length of Lesson in Minutes
0745 0800	Assembly & Opening Activities - Prayers, Registration Health Inspection, Morning Song, Children's Daily Talks.					15
0800 0810	Current Events - News Items, Weather Chart					10
0810 0830	Mathematics - Part I - Temlab or Oral, Mental & Tables Arithmetic					20
0830 0835	Radio - Morning Programme Announcements					5
0835 0845	Radio - English for Us 1. - Speech Training					10
0845 0905	Tate Oral English - Part A					20
0905 0925	Mathematics - Part 2 - Temlab or Written Arithmetic					20
0925 0945	Pre-Reading					20
0945 0955	Story Time - Teacher reads or tells a story					10
0955 1000	Singing, Rhymes, etc.					5
1000 1030	Morning Break - Radio:Teachers' Tea time requests					30
1030 1045	Health Education	Radio - Sing Together	Health Educ.	Singing	Art and Craft	15
1045 1100	Handwriting				Art and Craft	15

Table 7.1 cont.

OFFICIAL RECOMMENDED TIMETABLE FOR STANDARD ONE CLASSES

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Length of Lesson in Minutes
1100 1120	Tate Oral English - Part B					20
1120 1140	Mathematics - Part 3 - Temlab or Practical Arithmetic					20
1140 1155	Social Studies	Science	Social Studies	Art & Craft	Social Studies	15
1155 1215	Physical Education	Religious Education	Physical Education	Art & Craft	Religious Education	20
1215	Finish of the Day - Song, Hymn or Prayer.					

NOTES:
1. The total teaching time each day will be four hours
2. The total teaching time each week will be twenty hours.
3. The use of the local language is recommended for the teaching of all subjects except Oral English and Mathematics.

Table 7.2

OFFICIAL RECOMMENDED TIMETABLE FOR STANDARD TWO CLASSES

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Length of Lesson in Minutes
0745 0800	Assembly & Opening Activities - Prayers, Registration, Health Inspection, Morning Song, Children's Daily Talks					15
0800 0810	Current Events - New Items, Weather Chart					10
0810 0830	Mathematics - Part I - Temlab or Oral, Mental & Tables Arithmetic					20
0830 0835	Radio - Morning Programme Announcements					5
0835 0850	Handwriting					15
0850 0900	Radio - English for Us 2. - Speech Training					10
0900 0920	Tate Oral English - Part A					20
0920 0935	Mathematics - Part 2 - Temlab or Written Arithmetic					15
0935 0950	Tate Oral English - Part B					15
0950 1000	Story Time - Teacher reads or tells a story					10
1000 1030	Morning Break - Radio Teachers' Teatime request					30
1030 1045	Science	Radio - Sing Together	Health Education	Singing Rhymes, etc	Health Educ.	15
1045 1100	Mathematics - Part 3 - Temlab or Practical Arithmetic					15

Table 7.2 cont.

OFFICIAL RECOMMENDED TIMETABLE FOR STANDARD TWO CLASSES

Times	Monday	Tuesday	Wednesday	Thursday	Friday	Length of Lesson in Minutes
1100 1125	Reading					25
1125 1140	Written English					15
1140 1155	Social Studies	Science	Social Studies	Social Studies	Art & Craft	15
1155 1215	Religious Education	Physical Education	Religious Education	Physical Education	Art & Craft	20
1215	Finish of the Day - Song, Hymn or Prayer.					

Notes:
1. The total teaching time each day will be four hours.
2. The total teaching time each week will be twenty hours.
3. The use of the local language is recommended for the teaching of all subjects except Oral English and Mathematics.

Table 7.3

OFFICIAL RECOMMENDED TIMETABLE FOR STANDARD THREE CLASSES

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Length of Lesson in Minutes
0745 0800	Assembly & Opening Activities - Prayers, Registration, Health Inspection, Morning Song, Childrens' Daily Talks					15
0800 0810	Current Events					10
0810 0850	Mathematics - Part 1.					40
0850 0900	Speech Training					10
0900 0920	Tate Oral revision	Radio - Let's speak English for Std III lesson A	lesson A	lesson B	lesson B	20
0920 0935	Handwriting					15
0935 0955	Mathematics - Part 2					20
0955 1000	Story Time - Teacher reads a story					10
1000 1030	Morning Break - Radio: Teachers' Teatime requests					30
1030 1045	Radio -'Listen' Custom Stories		Radio - Sing Together	Radio - Joseph & Sarah	Social Studies	Social Studies 15
1045 1100	Health Education	Health Education	Singing Hymns etc.	Social Studies	Social Studies	15

Table 7.3 cont.

OFFICIAL RECOMMENDED TIMETABLE FOR STANDARD THREE CLASSES

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Length of Lesson in Minutes
0745 0800	Assembly & Opening Activities - Prayers, Registration, Health Inspection, Morning Song, Childrens' Daily Talks					15
0800 0810	Current Events					10
0810 0850	Mathematics - Part 1.					40
0850 0900	Speech Training					10
0900 0920	Tate Oral revision	Radio - Let's speak English for Std III lesson A	lesson A	lesson B	lesson B	20
0920 0935	Handwriting					15
0935 0955	Mathematics - Part 2					20
0955 1000	Story Time - Teacher reads a story					10
1000 1030	Morning Break - Radio: Teachers' Teatime requests					30
1030 1045	Radio - 'Listen' Custom Stories		Radio - Sing Together	Radio - Joseph & Sarah	Social Studies	Social Stud. 15
1045 1100	Health Education	Health Education	Singing Hymns etc.	Social Studies	Social Studies	15

Table 7.3 cont.

OFFICIAL RECOMMENDED TIMETABLE FOR STANDARD THREE CLASSES

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Length of Lesson in Minutes
1100 1115	Tate Oral English					15
1115 1145	Reading					30
1145 1215	Written English					30
1215	Finish of the Morning Program (take a Song, Hymn or Prayer) or continue until 1300 hours.					
Afternoon Time or						
1215 1240	Science	Science	Art & Craft	Art & Craft	Science	
1240 1300	Religious Education	Religious Education	Art & Craft	Physical Education	Physical Education	20-30
1300	Finish of the Day - Song, Hymn or Prayer					

Note: The maximum total teaching time each week will be 23-1/4 hours

Table 7.4

OFFICIAL RECOMMENDED TIMETABLE FOR STANDARD FOUR CLASSES

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Length of Lesson in Minutes
0745 0800	Assembly & Opening Activities - Prayers, Registration Health Inspection, Morning Song, Children's Daily Talks					15
0800 0810	Current Events					10
0810 0850	Mathematics - Part 1					40
0850 0905	Handwriting					15
0905 0925	Mathematics - Part 2					20
0925 0945	Tate Oral revision	Radio - Let's Speak English (for Std 4) lesson A	lesson A	lesson B	lesson B	20
0945 0955	Speech Training					10
0955 1000	Story Time - Teacher reads a story					10
1000 1030	Morning Break - Radio: Teachers' Teatime request					30
1030 1045	Radios 'listen' Custom Stories	Radio-Sing Together	Radio-Jos. & Sarah	Radio-S.S. Hist. in Sol.	S.S.	15
1045 1100	Health Education	Health Education	Singing Hymns	Social Studies	Social Studies	15
1100 1115	Tate Oral English					15

Table 7.4 cont.

OFFICIAL RECOMMENDED TIMETABLE FOR STANDARD FOUR CLASSES

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Length of Lesson in Minutes
1115 1145	Reading					30
1145 1215	Written English					30
1215	Finish of the Morning Program (take a song, hymn or prayer) or continue until 1300 hours					
Afternoon Times OR						
1215 1240	Art & Craft	Art & Craft	Science	Science		25-30
1240 1240	Art & Craft	Physical Education	Physical Education	Religious Education	Religious Education	20-30
1300	Finish of the Day - Song, Hymn or Prayer					

Note: The maximum total teaching time each week will be 23-3/4 hours.

the teacher walks to the door while saying, "I am going to the door", following which the children respond in unison, "You are going to the door." The same exercise will be repeated a number of times with the teacher asking, "Where am I going?" and the children replying, "You are going to the door." Individuals are called upon to repeat the teacher's actions and words. Groups drill, as illustrated by the preceding example, is the major teaching method; review and drill are a large part of each lesson. No provision is made for different learning speeds among students and the class progresses as a unit.

Every morning, radio lessons from the Solomon Islands Broadcasting Service in Honiara supplement the classroom teaching of Oral English. These lessons, which follow the Tate series, are broadcast daily for ten minutes to Standards 1 and 2 and twenty minutes to Standards 3 and 4, four times a week.

Reading readiness, begun in Standard 1, uses the South Pacific Commission Pre-reading course. Pre-reading skills are taught twenty minutes a day with teaching aids that include pictures and vocabulary flash cards from the readers. Word recognition is instilled by the whole word method, in which learning occurs through repeated visual and auditory exposure.

Cursive handwriting is introduced in Standard 2, the daily preparation for which includes rhythmic arm movements. The teacher tells a story, using repetition to emphasize rhythmic words like "hopping", or "sailing" as well as to demonstrate their air pattern. The children imitate these rhythmic patterns before practising them on the blackboard or on paper. Letters are not introduced utnil the second term of Standard 2, but by Standard 4 elaborate rhythmic designs and whole stories, are being copies.

Along with handwriting, practice in written English begins in Standard 2 and is intended to reinforce the total English program. Fill-in-the-blank, sentence completion and question answering are the basic techniques used to develop skill in composition. A simple picture or series of pictures is drawn on the blackboard as a basis for the written exercises. The syllabus provides model answers to determine correct English usage and these are drilled orally before the students begin their composition. The success of this sequence relies upon the teacher's willingness to sketch simple pictures on the blackboard but many teachers are reluctant to do so. Such a tightly controlled method for learning composition is officially justified on the ground that teachers are incapable of judging correct English usage.

Mathematics

There are three programs - Temlab, the Primary Mathematics Series, and the provisional syllabus - currently in use but the Temlab program will gradually replace the other two. Temlab, based upon modern mathematics, is being introduced to all students now attending the Teachers' Training College. The Primary Mathematics Series, a simpler program modeled after Temlab, is used in scheduled schools whose teachers have not been trained with Temlab. For those schools which have neither program, there is the provisional syllabus: an outline of the concepts to be mastered at each level.

The Temlab Course was developed in New Guinea and has been adapted for use in the Solomons. The lessons are a progression of activities that provide concrete experiences with materials to develop fundamental concepts of number, weight, time and space. Basic to the program are free play with the learning materials and pupil interaction and discovery. This is a radical change from the former mathematics syllabus, in which learning took place by oral drill, with little effort to ensure the understanding of concepts that underlay the drill work. Since most of the learning takes place in small groups, Temlab does not require a a high degree of English comprehension, but teachers capable of simultaneously managing a variety of activities and willing to rely on pupil leadership are essential to the program's success.

The Primary Mathematics Series (PMC), produced by the Training College, includes a teachers' manual of daily lessons and tests plus a children's workbook of activity sheets. Daily lessons begin with activities involving the whole class, followed by small group work; even though modeled after Temlab, oral drill is much more prevalent in the Primary Mathematics Series.

Social Studies

In 1972 a new Social Studies Curriculum was published for Standards 4 and 6, and replaced the Scheme of Work outlines that are still used for Standards 1 to 3. The new comprehensive statement for Standard 4, for example, contains sections on the brief aim of each bi-weekly lesson, a list of teaching aids, teacher preparation (usually information or a picture to be drawn on the blackboard), the lesson format, and sample illustrations for a blackboard summary. Supplementary activities like games, arts and crafts, reading and poetry are suggested to enrich the social studies unit.

The original Scheme of Work is a list of subject titles to direct the teacher in lesson preparation: That for Standard 1 includes discussions of local current events and classroom behavior, and units on weather, calendar, village life, food, clothing, recreation, transportation and beginning map work. In Standard 2, the Social Studies base is broadened to include community, government and money; in Standard 3 it covers local land formations and the Soloman Islands; and in Standard 4, there are units about the whole world.

Sciene (Nature Study)

A new curriculum, currently being developed with the aid of UNESCO, will depart from traditional practise and rely upon elaborate science kits. Meanwhile, the two texts widely used at the Junior Primary level are Plant Study by Joan Searly, and Nature Study Book, by Sheila Jamison. The former uses local plants for study, and is based upon examination and experimentation to discover the functioning of a plant specimen; it also encourages student record-keeping and offers suggestions for classroom displays. The second text, by contrast, is a descriptive handbook of biology without suggestions for experiments or class activities.

Health Science

As with nature study, the Health Science curriculum will soon be replaced by one modeled after a program presently used in Wellington, New Zealand. It is a spiraling curriculum, in which the five core topics will be extended and treated in greater depth with each successive standard. The core topics for Junior Primary School are growth and nutrition, health living, family and social living, safety, and preventing ill-health, with the lesson guides for each divided into, first, health knowledge; second, health habits and practices; and third, suggested activities. For the moment, several Health Science books are being used in primary schools, which are, for the most part, descriptions or expositions of recommended hygiene practices without the benefit of lesson guidelines.

Arts and Crafts

The Arts and Crafts Teacher's Notes for Standards 1-7 are a recent development, capitalize on local materials and skills, and demand no artistic ability of the teacher. Although not constituting a sequence, the teacher notes are a collection of project ideas with clear explanations on implementation and instructions on how to make art supplies from easily obtained local materials since to purchase art supplies is beyond most school budgets. The notes recommend a flexible approach, encourag-

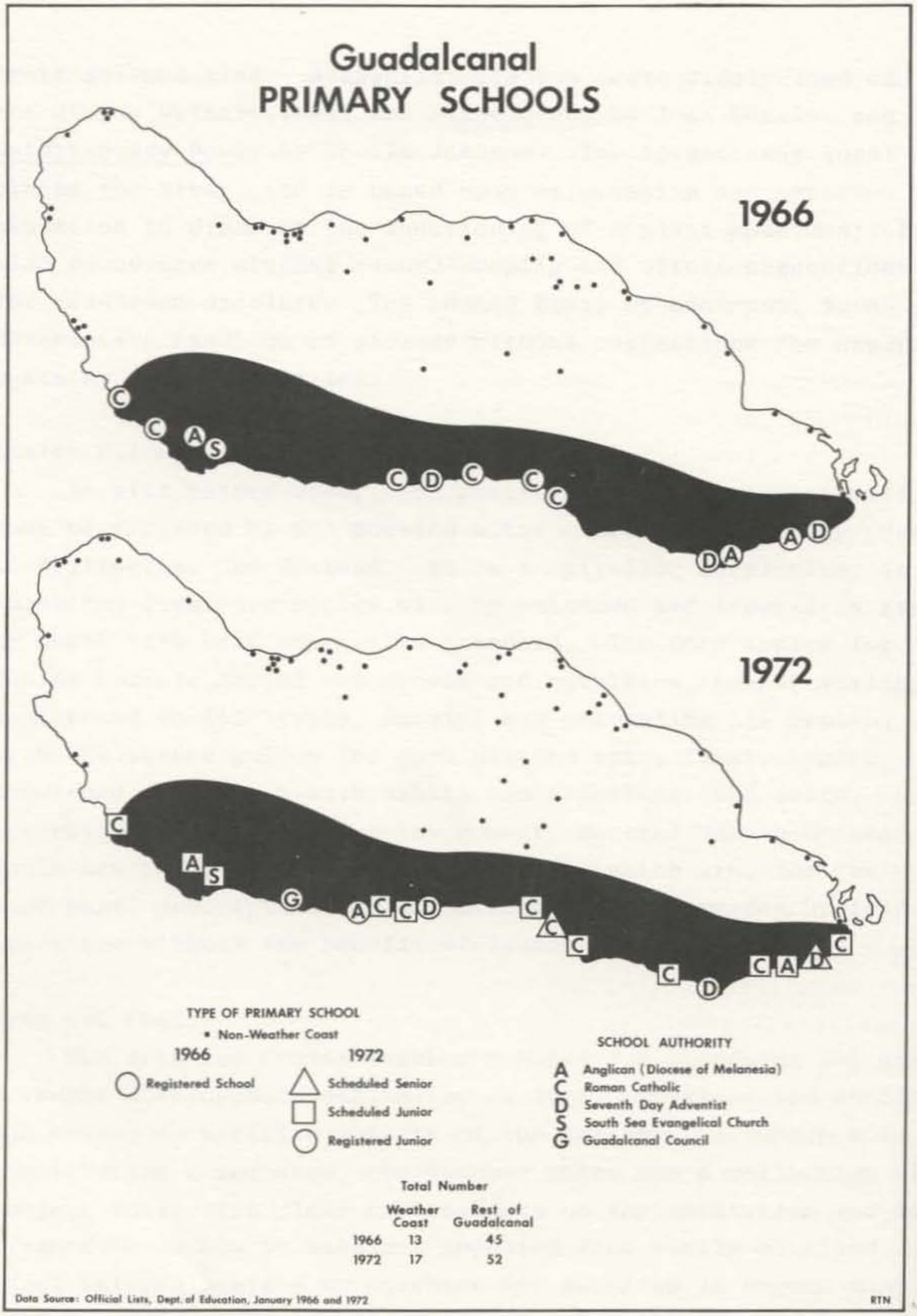

Guadalcanal
PRIMARY SCHOOLS
1966
1972
TYPE OF PRIMARY SCHOOL
• Non-Weather Coast
1966
Registered School
1972
Scheduled Senior
Scheduled Junior
Registered Junior
SCHOOL AUTHORITY
A Anglican (Diocese of Melanesia)
C Roman Catholic
D Seventh Day Adventist
S South Sea Evangelical Church
G Guadalcanal Council
Total Number
Weather Coast
Rest of Guadalcanal
1966 13 45
1972 17 52
Data Source: Official Lists, Dept. of Education, January 1966 and 1972
RTN

Figure 7.1

ing both teacher and student to improvise and experiment with new ideas. Reactions to use of the Arts and Crafts Notes from teachers and pupils has been highly favorable.

Physical Education

The Physical Education notes consist of a lesson outline that describe games and activities traditional for most Physical Education programs found in European schools.

Christian Education

To avoid involvement with church doctrinal issues, the Department of Education has relinquished responsibility for designing a religion syllabus to the Christian Education Committee on which all denominations are represented. The current syllabus is a list of lesson themes with Bible references which does not, however, address such issues as morality, sex education, race relations and comparative religions education that some members of the Education Department feel to be necessary.

Primary Schools on the Weather Coast

In 1972, the _du jure_ population of the Weather Coast was 8,425, of whom about half were aged less than 15. Out of the total population, there were 1,280 children (15 per cent) aged between six and ten, which is the normal range for junior primary schools throughout the Protectorate, while a further ten per cent (842) of the total were aged 11 to 15, which is the usual span for pupils attending senior primary schools.

Seventeen scheduled and registered schools on the Weather Coast, including two senior primary schools (Fig. 7.1), serve a total of 1,042 pupils (Table 7.5). These are not all Weather Coast children since some schools draw students from other parts of the Solomons. The greatest number of schools are controlled by the Roman Catholic Mission, with six junior primary and one of the two senior primary schools (Fig. 7.1). As throughout the Protectorate, primary education is effectively in the hands of the various churches, with financial assistance from the central government and the Guadalcanal Council. The marked concentration of each Church's sphere of influence throughout the Weather Coast (Fig. 7.2), the small size of villages, the presence of up to three faiths in a single village, and the small number of local senior primary schools, take most pupils -- both young and old -- away from their homes much of the year.

For the period 1970-72, the ratio of Weather Coast schools to total population was about 1:432, or about a third higher than the ratio for both north and southwest Guadalcanal (Table 7.6). This ratio, however, represents a slight diminution over that reported for 1965 (1:471; Chapman, 1970:Table 3) and in fact the Weather Coast was the only one of three areas on Guadalcanal to improve its comparative schools-to-population ratio during the seven years 1965 to 1970-72 (Table 7.6). As has been detailed in Chapter 3, the 1972 de facto count was flawed by its failure to capture most of the school pupils who boarded away from their homes. Four schools were in session at census date (27 November), at Sughu and Babanakira (Wanderer Bay Ward), and Vatukapicha and Viso (Duidui Ward; Fig. 1.5): their age range for Standard 1 was 5 to 16, with a median of 8; and for Standard 2, also 5 to 16, but with a median of 9. The median age in Standard 3 was 10, with a range from 6-17, and for Standard 4 it was 12, spread throughout ages 9-17.

Babanakira Junior Primary School: A Case Study

Babanakira Junior Primary School, near Ghauvalisi (Fig. 1.4), is situated on a large area of flat land along the west bank of the Tina River (Fig. 2.1). The grounds are neat and well groomed; the wide dirt paths that enter the school from several directions are lined with flowering hedges. The school has nineteen structures, ranging from an elaborate, tin roofed,

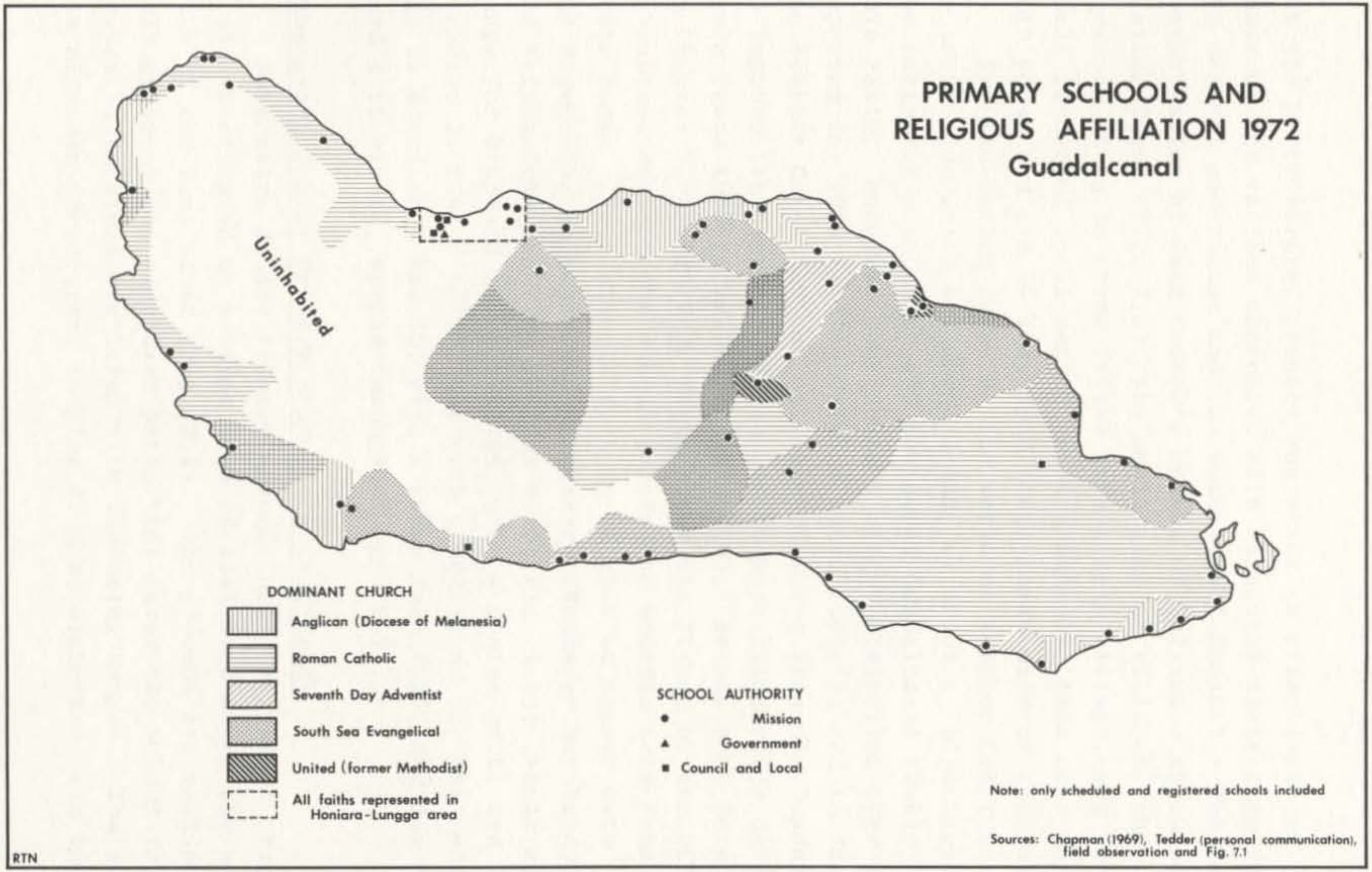

PRIMARY SCHOOLS AND RELIGIOUS AFFILIATION 1972
Guadalcanal
Uninhabited
DOMINANT CHURCH
Anglican (Diocese of Melanesia)
Roman Catholic
Seventh Day Adventist
South Sea Evangelical
United (former Methodist)
All faiths represented in Honiara - Lungga area
SCHOOL AUTHORITY
Mission
Government
Council and Local
Note: only scheduled and registered schools included
Sources: Chapman (1969), Tedder (personal communication), field observation and Fig. 7.1
RTN

Figure 7.2

Table 7.5

ENROLLMENT IN WEATHER COAST SCHOOLS 1972

School	Standard	Number of boys	Number of girls	Total pupils	Number of boy boarders	Number of girl boarders	Total boarders
AVUAVU (Catholic)	4	32	15	47	32	15	47
	5	28	10	38	28	10	38
	6	19	6	25	19	6	25
	7	20	8	28	20	8	28
	TOTAL	99	39	138	99	39	138
BABANAKIRA (Anglican)	1	35	18	53	19	11	30
	3	17	3	20	17	3	20
	4	22	2	24	22	1	23
	TOTAL	74	23	97	58	15	73
GHALIATU (Anglican)	1	16	12	28	16	12	28
	2	2	2	4	2	2	4
	TOTAL	18	14	32	18	14	32
HAIMARAO (Catholic)	2	16	9	23	5	4	9
	3	11	10	21	4	3	7
	TOTAL	25	19	44	9	7	16
KOPIU (SDA)	3	5	7	12	3	5	8
	4	14	6	22	9	6	15
	5	12	11	23	10	11	21
	6	20	5	25	17	4	21
	7	21	15	36	21	15	36
	TOTAL	72	44	116	60	41	101
KUMA (Catholic)	1	6	12	18	6	12	18
	2	6	6	12	6	6	12
	TOTAL	12	18	30	12	18	30
LONGGU (Catholic)	2	11	19	30	0	0	0
	3	8	6	14	0	0	0
	TOTAL	19	25	44	0	0	0
MAKARUKA (Catholic)	2	18	5	23	0	0	0
	3	10	11	21	0	0	0
	4	16	6	22	0	0	0
MALAGHETI (Catholic)	1	14	7	21	0	0	0
	2	10	5	15	0	0	0
	3	20	11	31	0	0	0
	TOTAL	44	23	67	0	0	0

Continued over ------

ENROLLMENT IN WEATHER COAST SCHOOLS 1972

School	Standard	Number of boys	Number of girls	Total pupils	Number of boy boarders	Number of girl boarders	Total boarders
OA	1	8	6	14	3	4	7
(Anglican)	2	14	11	25	12	9	21
	3	35	12	47	34	10	44
	TOTAL	57	29	86	49	23	72
POTAU	1	17	11	28	4	0	4
(Catholic)	2	24	10	34	0	1	1
	TOTAL	41	21	62	4	1	5
SANGGASERE (Catholic)	3	12	14	26	0	0	0
SUGHU	1	14	11	25	14	11	25
(Catholic)	2	8	14	22	8	14	22
	3	14	12	26	14	12	26
	TOTAL	36	37	73	36	37	73
SUKIKI	1	6	2	8	0	0	0
(SDA)	2	4	3	7	0	0	0
	3	3	1	4	0	0	0
	TOTAL	13	6	19	0	0	0
VATUKAPICHA	2	19	4	23	0	0	0
(SSEC)	4	17	3	20	0	0	0
	TOTAL	36	7	43	2	0	2
VERAMOGHO	1	6	4	10	0	0	0
(SDA)	2	5	6	11	0	0	0
	3	5	5	10	0	0	0
	4	7	4	11	0	0	0
	TOTAL	23	19	42	0	0	0
VISO	1	19	11	30	19	9	28
(GC)	2	8	3	11	1	2	9
	3	5	0	5	4	0	4
	4	6	2	8	6	2	8
	TOTAL	38	16	54	36	13	14

GC: Guadalcanal Council
SDA: Seventh Day Adventist
SSEC: South Seas Evangelical Church

Source: BSIP Department of Education

Table 7.6

RATIO OF SCHEDULED AND REGISTERED SCHOOLS TO POPULATION, GUADALCANAL

1965 AND 1970-72[a]

		Population	Number of Schools	Ratio of Schools to Population
Weather Coast				
1965		6,122	13	1:471
1970-72		7,309	17	1:430
North Coast				
1965		9,109[b]	35	1:260
1970-72		14,038[b]	44	1:319
Southwest Coast[c]				
1965		2,048	10	1:205
1970-72		2,649	8	1:331
	1970-72	23,996	69	1:348
	1965	17,279	58	1:298

[a] Population figures for 1965: Head Count, District Administration, Central Solomons; for 1970: the first complete de facto enumeration undertaken in the Solomons (Groenewegen, 1970:Tables 2 and 2A). School totals are drawn from official lists (about January 1966 and 1972) provided by the BSIP Department of Education, Honiara (see Fig. 7.1).

[b] Excluding the population of Honiara Town.

[c] Southwest Coast contains scheduled and registered schools from Visale to Koilonambo.

bright green store to cyclone-battered lean-tos used as cookhouses by the female boarding students. Three small dormitories with raised betel nut floors and palm leaf walls serve the female boarders, behind each of which is a sheltered cooking area. Some distance away, the three large dormitories for boys, each have a dirt floor, betel nut walls and raised, betel nut sleeping platforms. All the boys share a large covered area for eating and cooking. Equidistant between the boys' and girls' living areas are three classrooms, each with earth floors and three-quarter walls of betel nut that leave an opening between the wall and the roof. Every classroom is furnished with narrow planks hewn from trees that run its length to serve as benches and writing surfaces for the pupils. A small table and blackboard is provided for the teacher. The most imposing of all structures is a large, new chapel constructed of betel nut walls and a concrete floor, which doubles as a classroom for Standard 1. Both the teachers' houses are sturdy, of leaf, and with raised floors; they, plus the store, were the only buildings not to suffer extensive damage from the June 1972 cyclone.

Throughout the Weather Coast Babanakira, along with Oa (Table 7.5), is one of only two junior primary schools controlled by the Diocese of Melanasia (Anglican) that is also scheduled by the Department of Education and therefore receives government subsidies. Three Standards (1, 3 and 4) were taught during the 1972 school year, with Standard 2 planned to be added in 1973. During 1972, there were four teachers, two men and two women, since the large enrollment in Standard 1 made it necessary to form two classes of first-year pupils. All four teachers are Grade IVT, even though the school size would permit an official subsidy for a Grade III teacher were one available.

Attendance returns for March 1972 show a total of 97 children enrolled at Babanakira (Table 7.5). The two Standard 1 classes had 53 students, 40 per cent of whom were girls, but this percentage drops drastically to 15 and 8 per cent, respectively, in Standards 3 and 4 (3 out of 20 and 2 out of 24:Table 7.5). One quarter (73 out of 97) of all Babanakira students lived at home, no more than half an hours walk away. Of the remaining pupils who boarded, not all belonged to distant-villages, since school policy requires that Standard 3 and 4 students stay continually on the premises.

Babanakira opened as a junior primary boarding school in 1957 to offer Standards 1 and 2 primarily for boys from the Wanderer Bay District area (Sughu to the Tina River; Fig. 2.1). Standard 3 was added the following year but a dispute over boundaries of the school property and payment for land use prompted the headmaster, from Mavunina (Fig. A2) to resign and the school closed from that year. It was not until 1963 that Babanakira reopened with Standards 1, 2, and 3, the boys for which were drawn from the whole of Guadalcanal, Malaita, Santa Isabel, and even the Gilbert Islands (Fig. 1.1). Girls were first admitted in 1970. A substantial change appears to have occurred since the mid 'sixties when Chapman (1966) observed that both teachers at Babanakira were Grade III, compared with the present ones who were all Grade IVT. Previously, too, Babanakira drew students from Guadalcanal and the surrounding islands whereas today, all but a few belong to the Weather Coast.

Babanakira, like all Weather Coast schools, relies upon the volunteer help of village communities whose efforts are organized through a school committee. In this case, the school committee consists of two local Anglican priests, the four Babanakira teachers, and the former headmaster who serves as committee president. Meetings are held at least twice a year to discuss the maintenance of facilities and gardens, and to plan the agendas for general school meetings. General meetings are usually held during Education Week, which is an annual event throughout the Solomons, and the school feast for graduating students. Anyone may attend these meetings, but fathers of pupils are especially urged to come. The school committee has the power to plan for building and maintenance needs, set school rules and, in extreme cases, recommend dismissal of a teacher. For the most part, the committee does not become involved in actual classroom procedures. At one general meeting, held on November 11, 1972, topics discussed included the funds missing from the school store, non-payment of school fees, renovation of school buildings and proposed staffing for 1973. Comments were also made about the recurring problem of poor support for the monthly workdays from parents with school children and from people who lived within easy walking distance of Babanakira. In addition to one workday per month, parents and local residents contributed one week of their labor during Education Week, which in 1972 was held in June. At this time, the women were assigned to improve the food garden while the men were responsible for repairing or building school facilities.

Curriculum and Teaching Procedures

Time allotted to class work was guided by the Department of Education Timetable (Tables 7.1 - .4), except that Standards 3, and 4 met three and a half hours each day instead of the recommended four and three quarter hours. Although a radio was available, broadcast lessons were not listened to regularly in the classes, as the timetable suggests, and some subjects were often omitted. Classes were held from 8 a.m. to midday, at which time day pupils returned to their villages and boarding students were assigned tasks in the food gardens or on the school grounds between 1:30 and 4 p.m.

Except for a few Anglican books, all curriculum materials were furnished by the Department of Education. The school used the Tate Oral English Course and the South Pacific Commission Readers while the mathematics program was still based on rote-drill and the Pacific Mathematics Series. Although teachers had the social studies Scheme of Work, they felt it too general to be helpful and the Standard 1 teacher followed the BSIP broadcasting guide of stories. Students in Standards 3 and 4 had copies of My Home the Solomons, as a basis for social studies. For science, both the nature study and elementary hygiene booklets by Sheila Jamison were in use, but the Arts and Crafts Notes were not locally available and arts and crafts were not part of the curriculum. Materials prepared by the Anglican Church formed the basis for Christian Education.

Use of the local language, Ghari, was forbidden on the school grounds despite the fact that Department of Education policy recommends it for Standards 1 and 2. Most lessons were conducted in simple English, although pidgin was sometimes spoken in Standards 1 and 3. Since the Standard 1 teacher neither spoke nor understood the local language and since most Standard 1 pupils did not know pidgin or English, communication in class was very limited. Many Standard 1 children were expected to be held back for a second year, which the teacher rationalized by saying they were too young to sit still and listen for three and a half hours.

Teaching style was always very formal. Pupils stood to address teachers as "sir" or "madam" and used "Mr." and "Mrs." in front of the teacher's name. Students also responded immediately to all commands from the teacher and one even blew a whistle to indicate the end of each lesson. The only questions ever asked by students were to clarify the teacher's instructions.

Roll call was the first activity for Standard 1, to which the children responded "Present Madam," followed by oral prayers led by the teacher. In the class observed, a soccer game which had been broadcast the previous day was the topic of an animated discussion in pidgin. As the teacher talked, she asked the children questions in pidgin, like "If you went to Honiara, on which team would you want to play?" She stressed the children must work hard to qualify for secondary school so that they would be eligible to play in such teams. She described other games, asking the children if they were familiar with each and whether it was played at home. Although the response was invariably "yes," only a few children seemed able to follow the conversation and except for a game called "Giant in a Tree" (a variation of tag), all those mentioned were from the Physical Education Syllabus.

The Oral English lesson for Standard 1 was broadcast from Honiara, but since no table was available a small girl balanced the radio on her head. However reception was so weak (as so often happens on the Weather Coast) that the lesson, practicing the sound of long "o", had to be continued without the radio. The teacher then carried out an action and said, "I am walking to the blackboard," to which the children replied: "You are walking to the blackboard." After group practice, individuals were called upon to play the teacher's role but while there were a few volunteers, most children were extremely reluctant to speak in front of the class.

For reading readiness, the teacher held up flash cards and instructed the children to repeat the word on them after her. Then, without saying the words, she asked individual children to identify them one by one from the pile of flash cards in front of the class. When sufficient children had word cards to form a sentence, they lined up to pronounce their words in the sentence order. Invariably the cards were held from right to left, so that the sentence was backwards for those children still seated. In addition, many of the children had trouble recognizing and selecting the word from the pile of flash cards and when they did it was by a process of elimination. No phonic or linguistic decoding skills were taught.

The final ten minutes before morning break were spent singing which the children did enthusiastically, the first shown all morning, clapping and pounding to the rhythm. English and religious songs seemed to constitute their repertoire. After break, more songs were sung before they began a handwriting exercise. Using large arm movements, the children practiced making a series of "v" patterns in the air, which were then copies into their exercise books.

Following this, a demonstration was given in pidgin of the correct method of washing clothes. The children gathered around the teacher who, with a bucket of water, soap and a scrubbing brush, washed a piece of cloth and hung it up with clothes pegs. She emphasized the importance of washing often and pointed to children wearing dirty clothes to demonstrate this need. For the final half-hour of morning class, Standard 1 was joined by other standards for announcements and hymns. At noon, the day students were dismissed and the boarders remained for prayers.

No mathematics was taught to Standard 1 during the observation period because the teacher responsible was away. Neither was there any arts and crafts, and social studies consisted of a custom story occasionally told by the teacher.

Standard 3 greeted the teacher as she entered by rising and saying "Good morning, Madam." After prayers and roll call, a few questions were asked about grooming, and three songs selected by the children sung, followed by the story of Adam and Eve told in pidgin. Miscellaneous facts were then drilled for about fifteen minutes, after which spelling was practised from a list of words written on the blackboard. Having chanted these words in unison, the students covered their eyes and raised their hands to volunteer to spell a word.

Oral English in Standard 3 followed the same format as for Standard 1. A group of eight students, who closely followed one another, were chosen to carry out a different action and repeat three times what they were doing: "I am kicking the wall" or "I am dancing." The individuals who performed these actions seemed embarrassed and uncomfortable about being in front of their classmates.

Multiplication tables were drilled rapidly at the start of the mathematics lesson. When students did not know an answer, they guessed widly and seemed unable to actually multiply to arrive at the correct one. After ten minutes of drill, the class focused on adding horizontally. A sample problem was placed on the blackboard and pupils worked similar problems from their mathematics books. The teacher walked around the room helping anyone in difficulty and reminding them, "Your work must be neat and tidy." As soon as this work was completed, their exercise books were returned to the teacher. Shortly before mid-morning break, several English rhymes, were recited and interspersed with teacher commands of "Sit down," "Stand up," to which the children complied and shouted in response: "I'm sitting down," "I'm standing up." Nature study, following the break, was a discussion of taro in pidgin. Pupils were asked to describe a taro plant just pulled from the ground, the teacher then discussed how it grew and in turn had the class name the methods of cooking. A diagram of a taro plant carefully drawn on the blackboard from Jamison's Nature Study Book was copied by the students, who took care to label the parts as the teacher had done.

The assignement for Written English was to correct the poor grammar of several sentences written on the blackboard. Some examples were practiced orally first: "Every day he go to the river," to which one student responded "Every day he goes to the river; g-o-e-s-; goes." When everyone had finished, the exercise books were collected and the class dismissed.

Prayers and roll call were the first activity for Standard 4, followed by a chapter reading from the Bible and drilling on common Bible knowledge. Prompting students to give the correct response by providing the first part was the teaching technique employed here, as it was in all other standards observed. When the children were asked, "Who is the Holy Trinity? The Father, Son and Holy Sp---,", they responded: "Spirit." The teachers all use arm movements like a band director to signal responses in unison from the class.

As for Standards 1 and 3, mathematics began with the oral recitation of multiplication tables and drilling on oral problems. Quickness of response seemed to be the crucial factor for the latter, so that when a problem was posed, "How many fives in thirty?" the class immediately shouted back "six!" A written quiz covered the same type of questions and exercise books were exchanged for the students to correct their answers. A series of rhythmic claps from the whole class was the reward for performing well on this quiz, with the fewer problems missed the greater number of claps received. After some blackboard examples of giving the arabic numerals for written numbers and multiplying of dollars by ten, the students were assigned written exercises from Book II of the Pacific Mathematics Series.

Standard 4, in addition to following the same lesson format for Oral English that has been described for other classes, also recited a four-line dialog until it had been committed to memory and could be the basis for an actual exchange. A list of words for the day was next placed on the board and the students pretended to carry out the action appropriate to each; like "I'm cleaning my teeth," or "I'm combing my hair," despite the fact that tooth brushes are not common on the Weather Coast.

Several English rhymes were recited before the class began the written assignment that consisted of a list of words for which sentences were to be composed. These sentences all had same structure, "I am hungry," which, upon completion, were to be changed into reported speech; "I said I was hungry."

Other subjects, social studies, science, arts and crafts and physical education, were not taught during the October-November period of observation.

Vatukapicha Junior Primary School: A Case Study

Vatukapicha is on a superb hill-top site that overlooks much of the Tina River Valley. The school grounds and facilities are on a much smaller scale than those of Babanakira but include a rock garden of geometric shapes used by mathematics classes. Two boys dormitories and a large, tin-roofed, school house with concrete floor constitute the three main structures; the school house is divided into two rooms, one serving as sleeping quarters for the teachers and the other as the classroom.

Vatukapicha is the only scheduled primary school that the South Seas Evangelical Church has on the Weather Coast (Fig. 7.1). Two standards are offered each year: standards 2 and 4 were taught during 1972 and Standards 1 and 3 are planned for 1973. With one classroom and two teachers, this is the only means by which a full junior primary course can be offered.

The headmaster is a local man, with a teacher grade of IVT, while the other teacher is a Grade III graduate of the Solomons Training College.

The fact that the position of headmaster was held by the lesser-trained teacher acknowledged that he had been at the school for a greater time and belonged to the Poleo language area, from which most pupils also are drawn. By the end of the 1972 school year, there were 17 students in Standard 2 and 22 in Standard IV or four fewer than listed on the official tallies held by the Department of Education (Table 7.5). Both these classes were below the size of 25-30 pupils recommended by the Department of Education and the teachers were concerned that they would lose funds in 1973 if class enrollments did not increase. There was only one girl in Standard 2 but there were four in Standard 4, all of whom were too old to be eligible for senior primary school.

Although some boys board at Vatukapicha, most of the students are from villages within a radius of two-hour's walk. Plans are being made to move the school to Chocho (Fig. A3) on the coast, two hours' distance from the present site, because this is considered to be a more central location for the village populations served. The rating of the school was changed from registered catechist to scheduled in 1969, at which time the Grade III teacher was assigned. There was some interest, at least among the teachers, in utilizing the Vatukapicha site into a SSEC senior primary school if junior primary classes were moved to Chocho. Although in past years Vatukapicha has had a strong school committee supported mainly by the people of Poisugu (Fig. 2.1), the committee has since disintegrated, and the Poisugu people refuse to work on school projects. Since Poisughu is a large bush village three hours' walk from the planned site at Chocho, former committee members feel their and others' children will lose the opportunity to be formally educated because the distance is too great for young children to walk.

The lack of sufficient classroom space for both standards to meet simultaneously, means that Standard 2 meets from 8 a.m. - 12 noon and standard 4 from 1:30 - 4:00 p.m. A Department of Education timetable was posted in the classroom and more closely adhered to than was the case at Babanakira, even though the teachers sometimes changed the order in which the subjects were taught.

Possibly due to the presence of a Grade III teacher, Vatukapicha seemed to have a better supply of more recent curriculum materials than did Babanakira. Among the English program materials was a new set of the <u>South Pacific Commission Supplementary Readers</u> with which both the teacher and the students were pleased. The school had been alloted a Temlab mathematics set which had apparently been lost in transit. Unsuccessful in attempts to obtain another set from the Department of Education, the Grade III teacher had collected his own mathematics learning aids and so taught the subject according to Temlab concepts. Besides Temlab, the only other curriculum materials that the school lacked were the <u>Arts and Crafts Notes</u>.

Prominently posted in the classroom were the seven school rules:

1. I must not speak language.
2. I must not speak pidgin.
3. I must not pick my nose.
4. I must not steal chalk.
5. I must go in groups of five boys.
6. I must ask my teacher if I want to go anywhere.
7. I must not take any fruits without asking.

The classroom walls were covered with pictures drawn by both teachers and children; student's weekly progress charts; shelves holding art, science and mathematics materials; and miscellaneous fact sheets about the Solomons. A competitive spirit for high achievement was stressed and students were divided into four teams. Records were kept of the teams' weekly performance and the winner was awarded the classroom plaque at the end of each week. The Oral drill and a formal teaching style closely resembled that observed at Babanakira except that the drill was supplemented with learning materials to reinforce the concepts that underlay the facts being memorized.

At day's beginning, standard 2 and 4 students gathered for prayers and hymns. Gardening tasks were delegated to students in standard 4, who were dismissed until their class met at 1:30 p.m. Oral English for standard 2 began with Tate Oral English Exercises. Special attention was given to the "p" and "f" sounds, about which the children were puzzled because, as Hackman (1968) notes, the "f" sound is not found in Guadalcanal languages and is often confused with the "p" when learning English. The teacher was quick and energetic in having the children clap out their responses rhythmically and they wrote their own sentences from a list of words on the blackboard. Unlike Babanakira, some variety in responses was allowed, following which task the SPC Supplementary Readers were distributed for twenty minutes of silent reading.

For written English, the class was grouped according to ability. The teacher wrote a short story from the teaching manual on the blackboard for the more advanced group, substituted names of boys in the class for those in the teacher's model, and drew simple illustrations for each sentence. After reciting this story several times, the students were instructed to turn their backs to it and recite from memory. Once memorized, they entered the key words into their personal dictionaries and copied the narrative in their exercise books. Those who finished this task quickly were told to write another story on any topic of their choosing. Meanwhile, the other group wrote short sentences using the vocabulary words on the blackboard.

A wooden clock face was used for a quick review of telling time. For the written mathematics exercises, the class was again divided into two groups according to ability, with the more advanced focussing upon a set of problems that combined addition and subtraction. The other group was assigned two-digit, subtraction problems. In both groups, the children did their figuring aloud, using pebbles as counters. As the students completed their math exercise the teacher checked it and, if correct, allowed them to go the blackboard and draw.

Science began with all students having fifteen minutes to go outside and find one interesting object. They returned with a wide variety of leaves and flowers and even a few grasshoppers and butterflies. The teacher held up each sample, asking the children for the common English name, the language name and its use. One plant, a hibiscus, which in previous times was believed to possess magical powers, evoked great interest and led to a lively discussion. Prior to contact, the hibiscus bush was planted around villages as protection against outsiders who came with intentions of harming the inhabitants. The powers of the bush were said to cause the evil pursuer to drop dead, so that a hibiscus bush found growing in uninhabited area today signifies the site of previous settlement. After some related discussion of local history, the children made careful drawings of what they had collected in their exercise books.

The day's class ended with Christian education, in which the teacher reviewed a Bible story that had been read a few days earlier. Four competing teams were formed to answer questions about that previous story, and the resultant scores added to the weekly progress charts.

The standard 4 class is supposed to be taught by the headmaster who, as a member of the Guadalcanal (local government) Council, was absent much of the time and the Grade III teacher usually managed both standards 2 and 4. At the time of observation, the standard 4 students had already taken their qualifying examination for senior primary school, so that classes were held primarily for the purposes of review. After Oral English drill, Standard 4 was divided into four reading groups and each was assigned a story from new SPC reader. The groups went outside, selected a place to sit, and read orally in unison for about fifteen minutes. None were able to finish their stories by the time they were called back to the classroom, at which point the teacher asked each group one simple, factual question.

For writing, the class sang "Row, Row, Row Your Boat" as the teacher slowly made a series of rounded humps on the blackboard, which the class imitated by making air patterns. Several other patterns were practiced in the same manner, using local songs, and both the words to the songs and the rhythmic patterns copied into exercise books. The basis for the writing exercises some booklets of English nursery rhymes and songs. Multiplication tables were similarly recited as the teacher beat the pace with a stick. Their written assignment was to supply the missing numeral in problems such as 52 - 1__ = 40 and 91 + __9 = 150. Work was checked upon completion of the problem set and students then were allowed to browse through their readers.

Teacher Opinions

Most of the information in this section derives from a questionnaire administered individually to all teachers at Babanakira and Vatukapicha, Babanakira's former headmaster, and the headmasters of the Roman Catholic schools at Sughu, Wanderer Bay and Makaruku, Veuru Moli.

All the teachers agreed that English was one of the most important subjects for students to learn because of the need to communicate with the British administrators and commercial establishment and to earn an income. Mathematics was viewed as nearly as important as English, except for two teachers, one of whom from Babanakira did not teach it to her class and the other, from Vatukapicha, favored social studies and art over mathematics. When class time was limited, the subjects most often eliminated were physical education, health and social studies.

It was the opinion of most teachers that more time should be alloted to Solomon Island history and culture. The current curricula materials were considered inadequate and, with their own knowledge of Solomon Island history limited, teachers felt that a good curriculum guide was necessary to do the subject justice. There was definite interest in inclusion of specifically local customs and history, but since most teachers were not from the Weather Coast they made no efforts to do so. By having students tell customs stories, Vatukapicha was able to bring some local culture into the classroom and staff of both here and Sughu suggested that local adults be used to help teach the appropriate history and customs. Concern was expressed, particularly at Sughu and Vatukapicha, that the children were sacrificing their own culture by attending a European style school and that before children could be trusted as leaders of their own people they needed to know their own history and culture. Babanakira's former headmaster stated that local history would soon be lost in the push for development if the school as an institution did not assume some responsibility for teaching it.

On the question of the level of educational attainment needed by children who would likely return to a village life, all teachers agreed that a full, senior primary education should be the minimum goal; junior primary education, they insisted, was not enough if the students were to become leaders. One even suggested that a Form 2 experience was necessary before a person was capable of intelligently leading the people in development and in dealing with the government. Like teachers everywhere, they believed that all children should be able to enjoy the benefits of education!

The age that children should begin school was an issue that divided teachers. The only person who thought children should enter school as young as age five or six was a former headmaster who had not taught for ten years. All the practicing teachers, on the other hand, thought that children were not ready for school until at least seven years of age and by waiting until age ten, one standard 1 teacher suggested, children would gain a great deal more benefit from their schooling. Others stated seven and eight as the majic age at which children should begin school. Despite disagreement about the optimum age to enter school, all teachers considered the current regulations governing age of entry to school not to be in the people's or the country's best interest. According to them, many children who do poorly when beginning school at six or seven, fail because of immaturity and lack of interest. Such children the teachers argued, should be allowed another chance when they have matured and have developed a genuine concern for schooling. This feeling about injustice of official age regulations is reflected in the fact that many older children are accepted and registered with fictitious ages.

The Department of Education recommends that local languages be used for teaching all subjects, except English and mathematics, but the language policy practiced varies with the church controlling the school. Catholic schools in Sughu and Makaruka use the local language whereas Babanakira and Vatukapicha forbid it because of established church policies (Diocese of Melanesia and SSEC). Even assuming that these churches permitted the local language to be used in class, such a change in policy could not be implemented at present because only two of the six teachers assigned to Babanakira and Vatukapicha can speak the local languages of Ghari and Poleo (Fig. 2.1). Although most teachers think their respective churches should permit the use of Ghari and Poleo at least in the lower standards, the Department of Education policy is ignored simply because they themselves do not have this linguistic facility.

Most of the suggestions made for improving the curriculum materials consisted of minor vocabulary adaptations to the Weather Coast environment. The Tate Oral English Course was a frequent target for suggested alteration, since some of the vocabulary and teaching situations were unrealistic for the Weather Coast. Often teachers had adapted lessons by substituting vocabulary items familiar to the students and several suggested that the lessons in the Tate Series needed to be simplified for the children. Another common complaint concerned the brevity of the Social Studies syllabus.

Even though at all schools the boarding students were required to work in the food gardens, there was no consensus among the teachers on the place of agriculture in the curriculum. The Sughu headmaster thought that a larger proportion of the gardening responsibilities should be assumed by the nearby villages so that more time could be devoted to academic matters; Babanakira was ambivalent towards gardening and limited it to traditional methods of growing local staples; while both of Vatukapicha's teachers considered the learning of improved agricultural methods and crops to be one of the most important aspects a school could offer. Knowledge of modern agricultural practices, they believed, would be highly valued in those students who would return to their village and become the leaders of the future.

In the mid 'sixties, Chapman (1966) observed that the staff and facilities of Babanakira were far superior to those of Vatukapicha. In the interim, education at Vatukapicha has improved substantially for in 1972 a greater interest in learning was evident in the Vatukapicha students, both by the nature of their responses to the teacher and by their level of concentration on the lessons. Almost every inch of wall space was used for learning aids and displays of children's work whereas the Babanakira classrooms were devoid of learning materials. A wider range of subjects was taught at Vatukapicha and concepts emphasized in addition to rote work; at Babanakira, by contrast, oral and written drill was used almost to the exclusion of other teaching techniques.

Based upon only cursory observation during a one-day period, the quality of education at Sughu resembled that of Vatukapicha. There, students showed an active interest in learning and more time was spent ensuring that concepts were understood rather than orally drilled. It is difficult to pinpoint the reasons for this wide disparity between the three schools, but the most influential factor appears to be teacher training. Without exception, all teachers were capable and dedicated but those at Vatukapicha and Sughu schools had the benefit of a Grade III teacher. The presence of at least one person with the higher level of training not only was reflected in that person's teaching effectiveness but also seemed to have a markedly positive influence upon their Grade IVT colleagues.

Child-Rearing Practices and Children's Activities

The nature of formal education on the Weather Coast is best placed in perspective by a brief overview of child-rearing practices and children's activities. Observations made at all eight project sites indicate that children up to about the age of three were the object of lavish attention and affection from both adults and older children. Rarely are they severely reprimanded although deliberately disobeying a parent may sometimes be punished with the universal custom of a switch across the rear end. Babies and toddlers less than three years old are never left alone. If they are not tied to their mother's hip as she works about the village or garden, they are in the protective care of an older sibling or adult. From three, children begin assuming small tasks. At a mother's request, they may fetch a burning coal from a neighbor or accompany their father to the spring with a small bottle to fill with drinking water.

From the time they are toddlers, village children of both sexes often play together until the early teens. Older children willingly adapt their activities to include young ones and playing around the village, the gardens and their environs is the major pastime until girls reach about seven and boys about ten. An eight-year-old girl works alongside her mother in the garden, feeds the pigs, cooks food, makes sleeping mats, takes dishes and clothes to the river to be washed, and cares for her younger siblings. Since a boy of this age has few responsibilities, swimming and other physically active forms of recreation with companions are the major pastimes. Once boys reach about ten or eleven, they are considered capable of assuming male gardening tasks, chopping firewood, and butchering a small pig. The consequence of girls being responsible for a larger proportion of the family workload than their brothers means, of course, that parents are less willing to lose a girl to formal schooling or, if a girl is permitted to attend, then she is much more likely to leave before completing standard 4 and return home to work.

<u>Interviews of Parents and 'Big Men'</u>

The mother and father of each school child from three hamlets were interviewed separately as well as 'big men' of three major villages, whose opinions carried great weight with the people.

Seventeen interviews, each of about an hour, were held with parents whose children mainly attended Babanakira. Of the 'big men' included, one was childless; another had a son not yet in school; and the third had ten children, nine of whom had been to school. One of these was currently enrolled at Selwyn College, an Anglican secondary school in the Solomons, and one had graduated from an overseas university.

It was apparent that parents had little idea of what was being taught in schools, with English and gardening the subjects most frequently mentioned by those who were able to respond. Despite this lack of knowledge, six out of 17 wanted local culture and agriculture to become an important part of school curriculum. The solitary person negative to adding local history and customs reasoned that the teachers did not have the proper background but that if local people were assigned the instruction, then local history and customs should definitely be taught. 'Big men' unanimously agreed: said one, "Schools are a European invention so Solomons culture is not receiving its due attention." Another suggested that perhaps schools should initiate the task of writing down customs and history before the few old people died who remember them.

Nearly half those interviewed thought English should be the main language used for teacher-child communication. Only a few parents thought most teaching should be in the local language, whereas two of the three 'big men' were strongly convinced that education quality would improve were the local language utilized. Reasons for sending children to school varied from a desire to help the village and the request of the child to a hope for better opportunities for earning European money (the latter over half the parents). The 'big men' differed on the relation of education to income possibilities. Moneymaking, according to one, is a knack that does not necessarily come with schooling, while another asserted that both schooled and unschooled have equal opportunities to earn money. The third indicated that there was actually a negative relationship between education and acquiring money, because school makes children discontented and sometimes they consider farming beneath them.

Prestige also operated as a factor in sending some children to school. Although most did not believe that the amount of respect or trust given a person hinged on education, nevertheless a few did say that one who had been to school was usually more trustworthy through being more knowledgeable about the world; through understanding the Commandments and the risk of breaking them; and through the honesty indicated by paying his school fees. The fear of losing children to the lure of modern town life was common among parents. Half of those interviewed thought school was an important factor in causing children to become discontented with village life and the few who were willing to have their sons leave home for employment purposes, said so on the grounds that they would eventually return to the village to live.

It was difficult to discover parents' opinions on what age children should start school. Measuring a person's age in precise years is not an indigenous concept and is rarely used except in interactions with European culture. Since most parents did not know the age of their offspring without consulting church records, they indicated by name those they thought unready for school. In general seven year-olds, they believed, were too young, while the 'big men' advocated that entry to primary school should not be restricted to six and seven year-olds. They reasoned that Melanesian children mature at a slower rate than Europeans and did not have an educationally oriented society to prepare them for formal schoolwork. They wanted the age regulations for school entry abolished, since it was more important that Melanesian children have the option of entering school at a later age when their chances of succeeding in a European-style school system were greatly improved.

School-community relationships were limited primarily to the school soliciting labor from the villages. Almost all the parents had worked for the school during Education Week and many attended the year-end feast. Much to the chagrin of the school committee, it was much more difficult to muster a large attendance for the monthly, school work-day; some of the men attended committee meetings but few participated in discussions. Only by allowing greater village influence in school procedures and curriculum, according to one 'big man,' could the villagers become sufficiently interested in the schools to donate their time through regularly working for it.

The conclusions of these interviews reinforce more informal discussions that the greatest need is to make Weather Coast education more relevant to the needs and hopes of villagers, who constitute practically everyone who lives on the Weather Coast. A rural emphasis to education has been a favorite topic of debate not only in the Solomons, but also by prominent educational figures in many developing countries, and has been most recently and eloquently stated in the 1973 recommendations from the BSIP Educational Policy Review Committee (BSIP, n.d.).

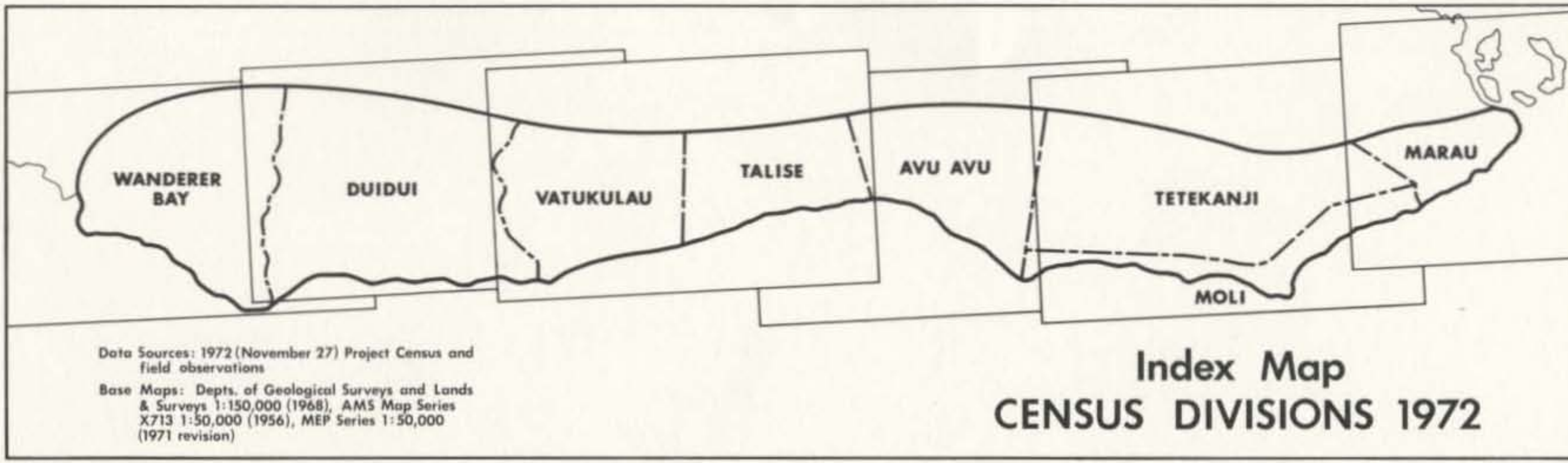
The case studies of two Tina Valley schools indicate a crucial goal ought to be to broaden the philosophical base upon which the Solomon Island educational system has developed; that is, a formal European system which stresses the academics required for a highly technical, industrialized society. Expressed most generally, such a broadening would include an increased emphasis in the curriculum on knowledge and skills useful to village living, and particularly for girls, continued encouragement to the establishment of more Rural Training Centers; and development of a school program in Solomons history and culture that transfers the knowledge and talents of local experts out of the village into the classroom. In terms of educational administration, parallel needs would be to enforce the use of local languages at least to lower standards in junior primary schools; to broaden the regulations governing age entry requirements for each standard; and to assign one Grade III teacher to every school in a general locality, like the Weather Coast, before increasing the number of such teachers at any other school.

Conclusions such as these reflect an attempt to specify alternatives to the current system, which from the viewpoint of Weather Coast society is operating ineffectively at best. Many people in the

Department of Education are sincerely trying to achieve a better fit between the aims of formal education and the needs of the villages. Out of this detailed study of junior primary education on the Weather Coast may be the impetus to re-evaluate current educational objective in terms of the values of the village society it serves.

APPENDIX A

INDEX MAPS OF CENSUS DIVISIONS 1972 AND MOVEMENT OF VILLAGE POPULATIONS 1870-1972


WANDERER BAY
DUIDUI
VATUKULAU
TALISE
AVU AVU
TETEKANJI
MARAU
MOLI
Data Sources: 1972 (November 27) Project Census and field observations
Base Maps: Depts. of Geological Surveys and Lands & Surveys 1:150,000 (1968), AMS Map Series X713 1:50,000 (1956), MEP Series 1:50,000 (1971 revision)
Index Map
CENSUS DIVISIONS 1972

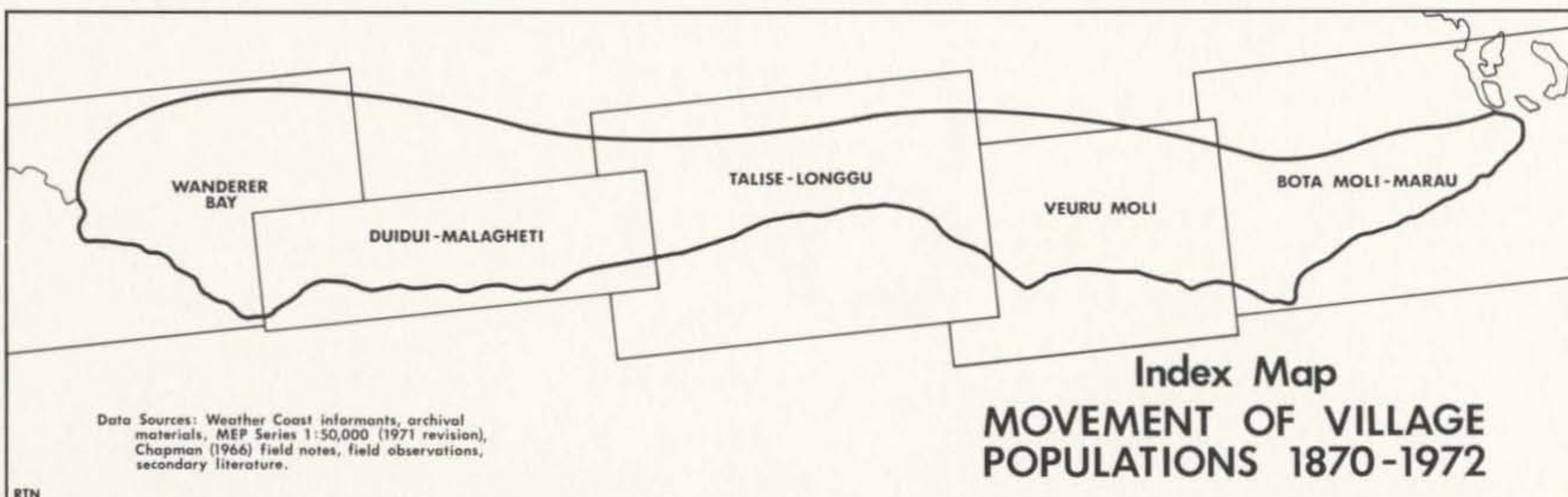
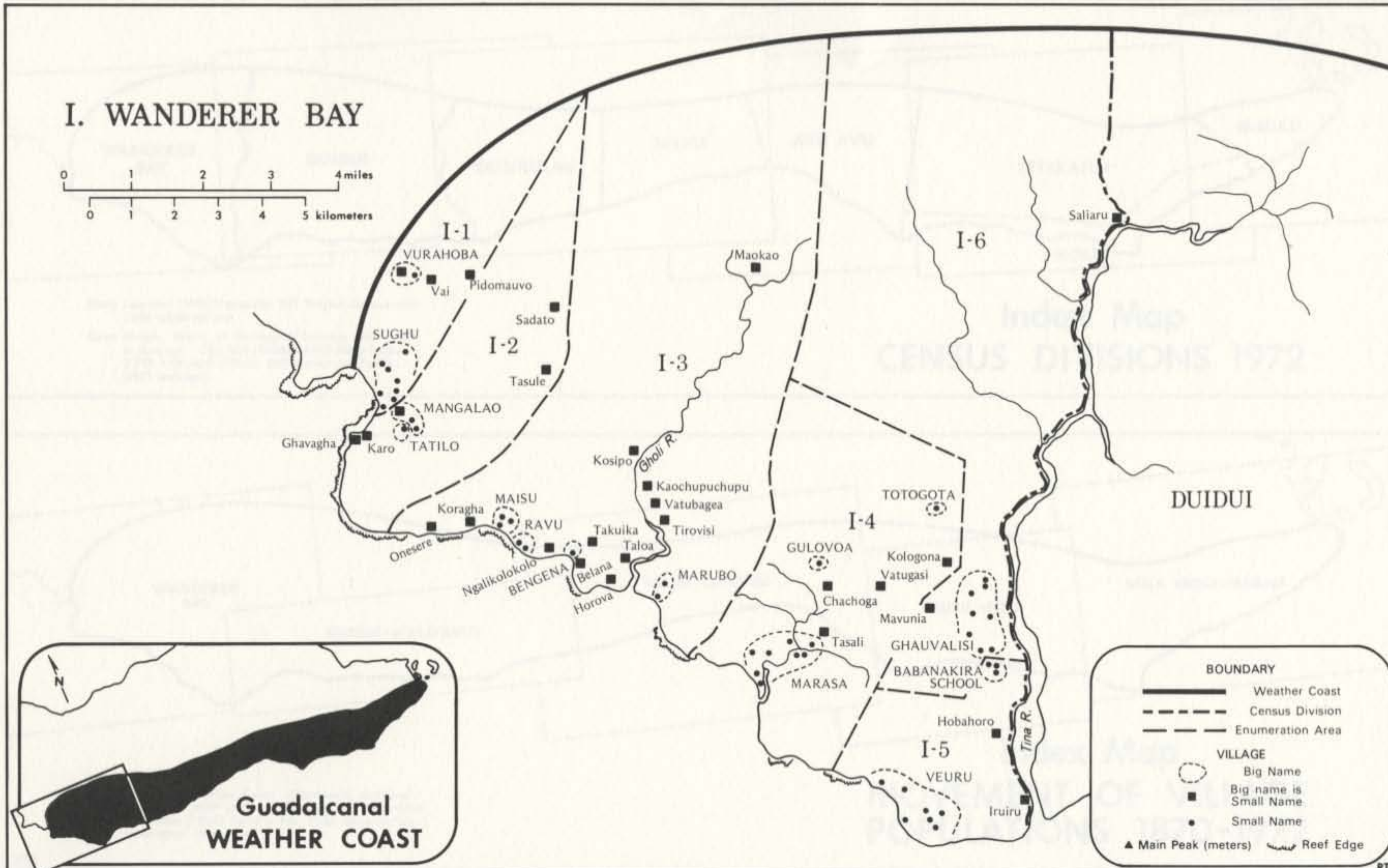

WANDERER BAY
DUIDUI-MALAGHETI
TALISE-LONGGU
VEURU MOLI
BOTA MOLI-MARAU
Data Sources: Weather Coast informants, archival materials, MEP Series 1:50,000 (1971 revision), Chapman (1966) field notes, field observations, secondary literature.
RTN
Index Map
MOVEMENT OF VILLAGE POPULATIONS 1870-1972

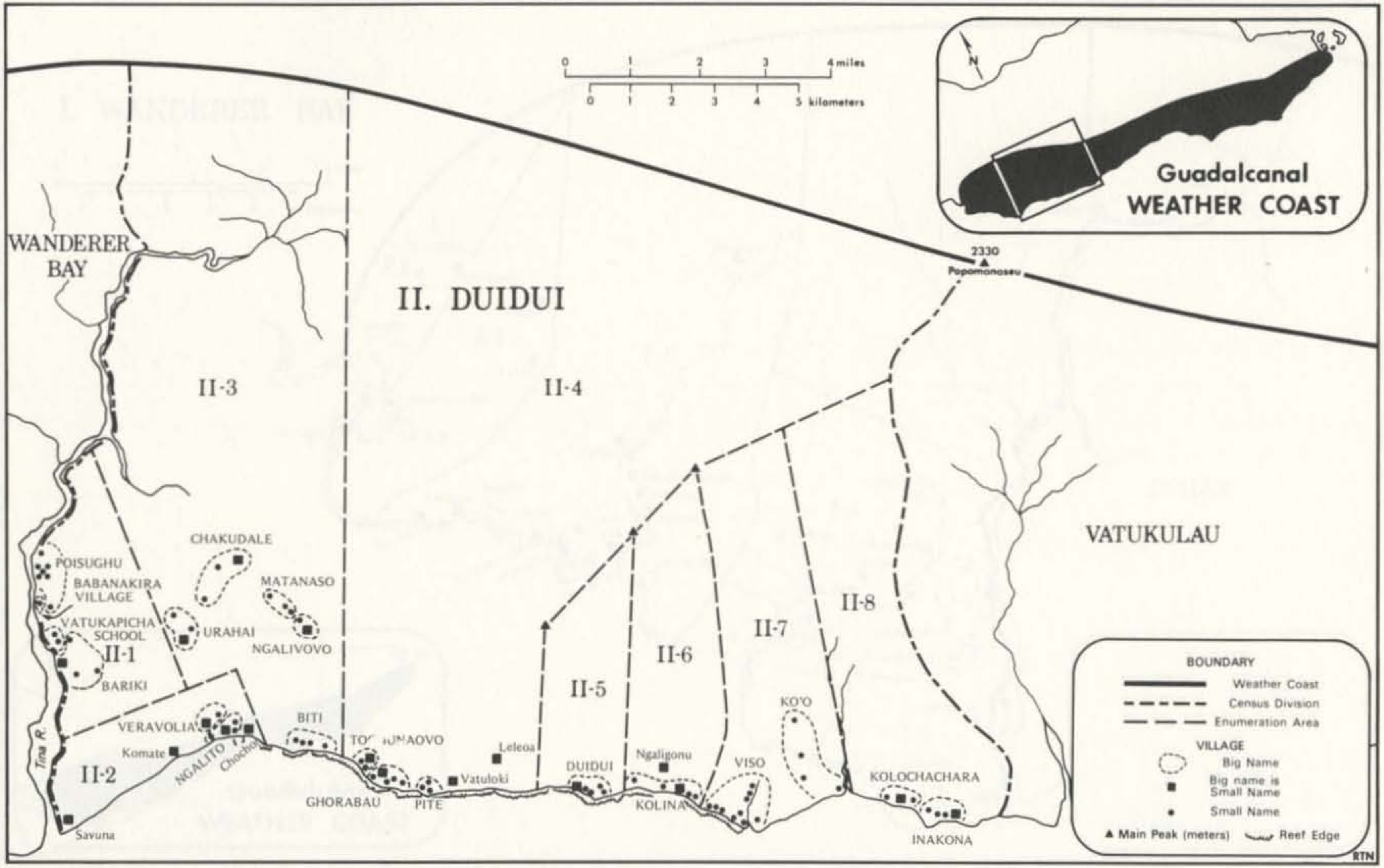
Figure A1



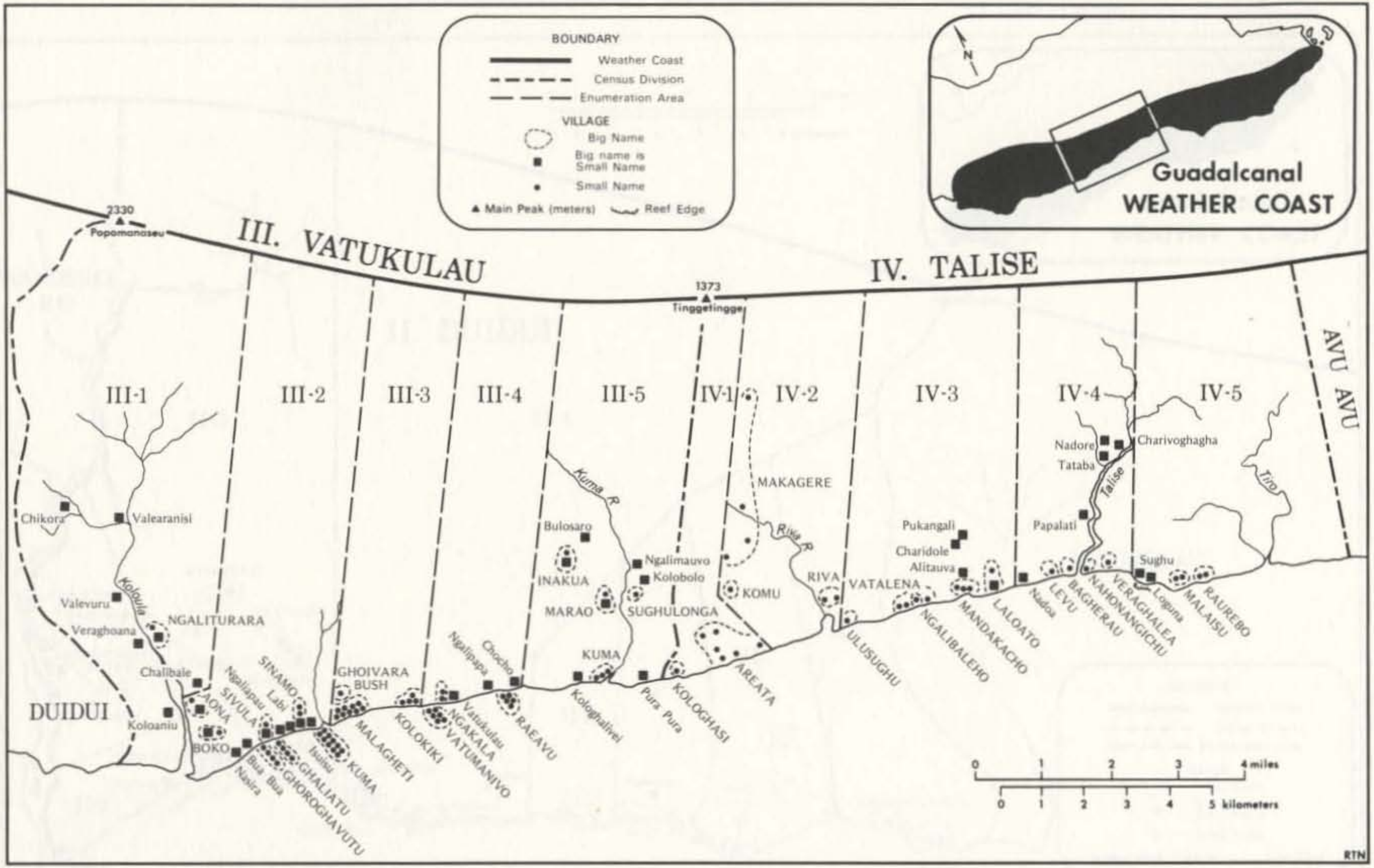
I. WANDERER BAY
0 1 2 3 4 miles
0 1 2 3 4 5 kilometers
I·1
I·2
I·3
I·4
I·5
I·6
VURAHOBA
Vai
Pidomauvo
Sadato
Tasule
SUGHU
MANGALAO
TATILO
Ghavagha
Karo
Maokao
Kosipo
Gholi R.
Kaochupuchupu
Vatubagea
Tirovisi
Takuika
Taloa
Belana
Horova
MARUBO
MAISU
RAVU
Koragha
Onesere
Ngalikolokolo
BENGENA
TOTOGOTA
GULOVOA
Kologona
Vatugasi
Chachoga
Mavunia
Tasali
MARASA
GHAUVALISI
BABANAKIRA
SCHOOL
Hobahoro
Tina R.
VEURU
Iruiru
Saliaru
DUIDUI
Guadalcanal
WEATHER COAST
N
BOUNDARY
Weather Coast
Census Division
Enumeration Area
VILLAGE
Big Name
Big name is Small Name
Small Name
▲ Main Peak (meters)
Reef Edge
RTN

Figure A2

Figure A3



Guadalcanal
WEATHER COAST
N
0 1 2 3 4 miles
0 1 2 3 4 5 kilometers
WANDERER BAY
II. DUIDUI
2330
Popomanaseu
II-3
II-4
VATUKULAU
CHAKUDALE
POISUGHU
BABANAKIRA VILLAGE
MATANASO
VATUKAPICHA SCHOOL
URAHAI
NGALIVOVO
II-1
BARIKI
II-8
II-7
II-6
II-5
KO'O
BITI
VERAVOLIA
Leleoa
Komate
Ngaligonu
DUIDUI
VISO
KOLOCHACHARA
II-2
NGALITO
Chochol
Vatuloki
Tina R.
GHORABAU
PITE
KOLINA
INAKONA
Savuna
BOUNDARY
Weather Coast
Census Division
Enumeration Area
VILLAGE
Big Name
Big name is Small Name
Small Name
Main Peak (meters)
Reef Edge
RTN



BOUNDARY
Weather Coast
Census Division
Enumeration Area
VILLAGE
Big Name
Big name is Small Name
Small Name
Main Peak (meters)
Reef Edge
N
Guadalcanal
WEATHER COAST
2330
Popomanaseu
III. VATUKULAU
1373
Tinggetingge
IV. TALISE
AVU AVU
III-1
III-2
III-3
III-4
III-5
IV-1
IV-2
IV-3
IV-4
IV-5
Chikora
Valearanisi
Koloula
Valevuru
Veraghoana
NGALITURARA
Chalibale
DUIDUI
Koloaniu
AONA
SIVULA
Ngaliapau
Labi
SINAMO
BOKO
Nasira
Bua Bua
GHALIATU
GHOROGHAVUTU
Isuisu
KUMA
GHOIVARA BUSH
MALAGHETI
KOLOKIKI
NGAKALA
VATUMANIVO
Vatukulau
Ngalipapa
Chocho
RAEAVU
Kuma R.
Bulosaro
INAKUA
MARAO
Ngalimauvo
Kolobolo
SUGHULONGA
KUMA
Kologhalivei
Pura Pura
KOLOGHASI
AREATA
MAKAGERE
Riva R.
KOMU
RIVA
VATALENA
ULUSUGHU
NGALIBALEHO
Pukangali
Charidole
Alitauva
MANDAKACHO
LALOATO
Nadoa
LEVU
BAGHERAU
NAHONANGICHU
VERAGHALEA
Nadore
Charivoghagha
Tataba
Talise
Papalati
Sughu
Loguna
MALAISU
RAUREBO
Tiro
0 1 2 3 4 miles
0 1 2 3 4 5 kilometers
RTN

Figure A4

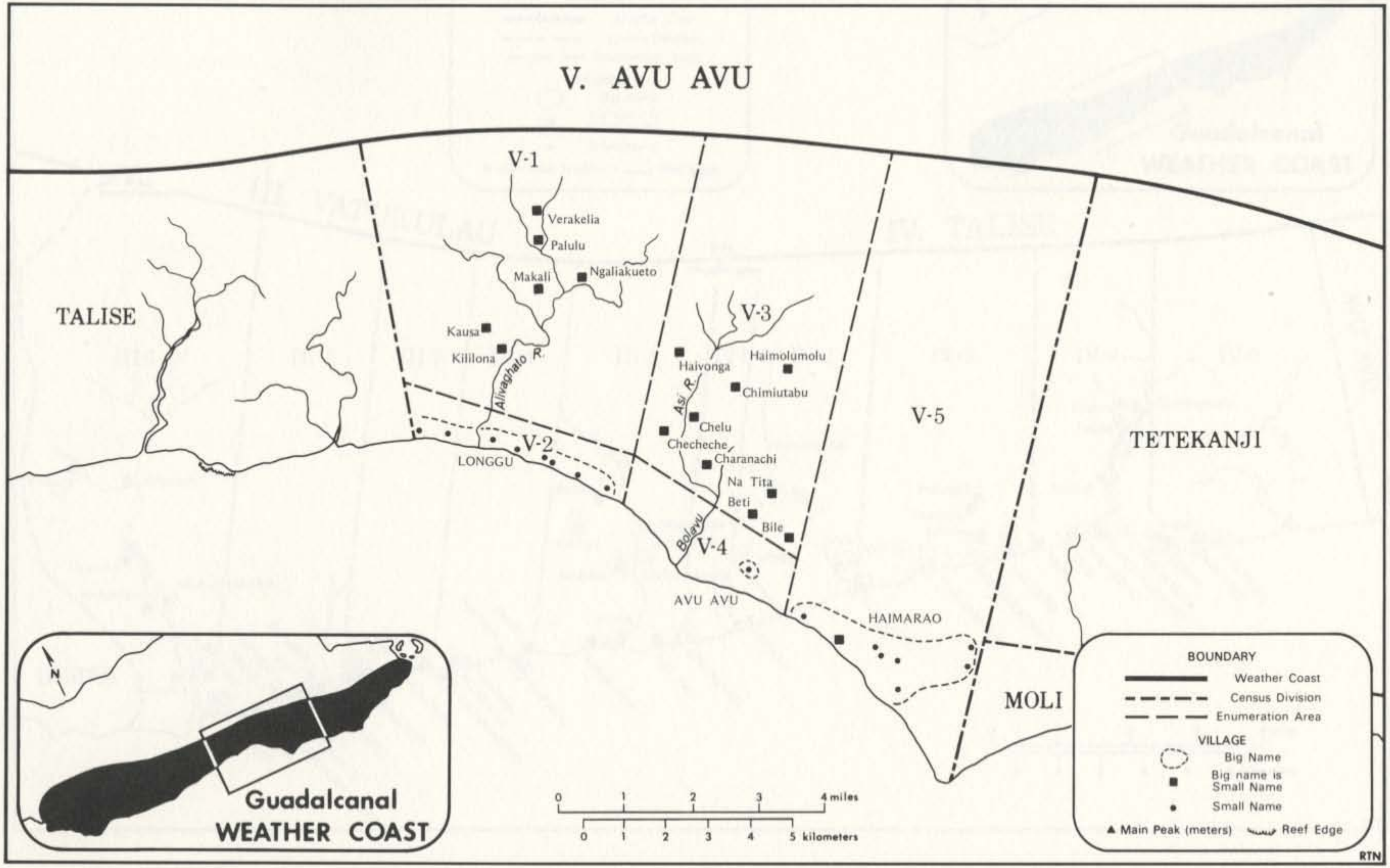

V. AVU AVU
V-1
V-2
V-3
V-4
V-5
TALISE
TETEKANJI
MOLI
Verakelia
Palulu
Makali
Ngaliakueto
Kausa
Kililona
Alivaghato R.
LONGGU
Haivonga
Haimolumolu
Chimiutabu
Asi R.
Chelu
Checheche
Charanachi
Na Tita
Beti
Bile
Bolavu
AVU AVU
HAIMARAO
Guadalcanal
WEATHER COAST
0 1 2 3 4 miles
0 1 2 3 4 5 kilometers
BOUNDARY
Weather Coast
Census Division
Enumeration Area
VILLAGE
Big Name
Big name is Small Name
Small Name
Main Peak (meters)
Reef Edge
RTN

Figure A5

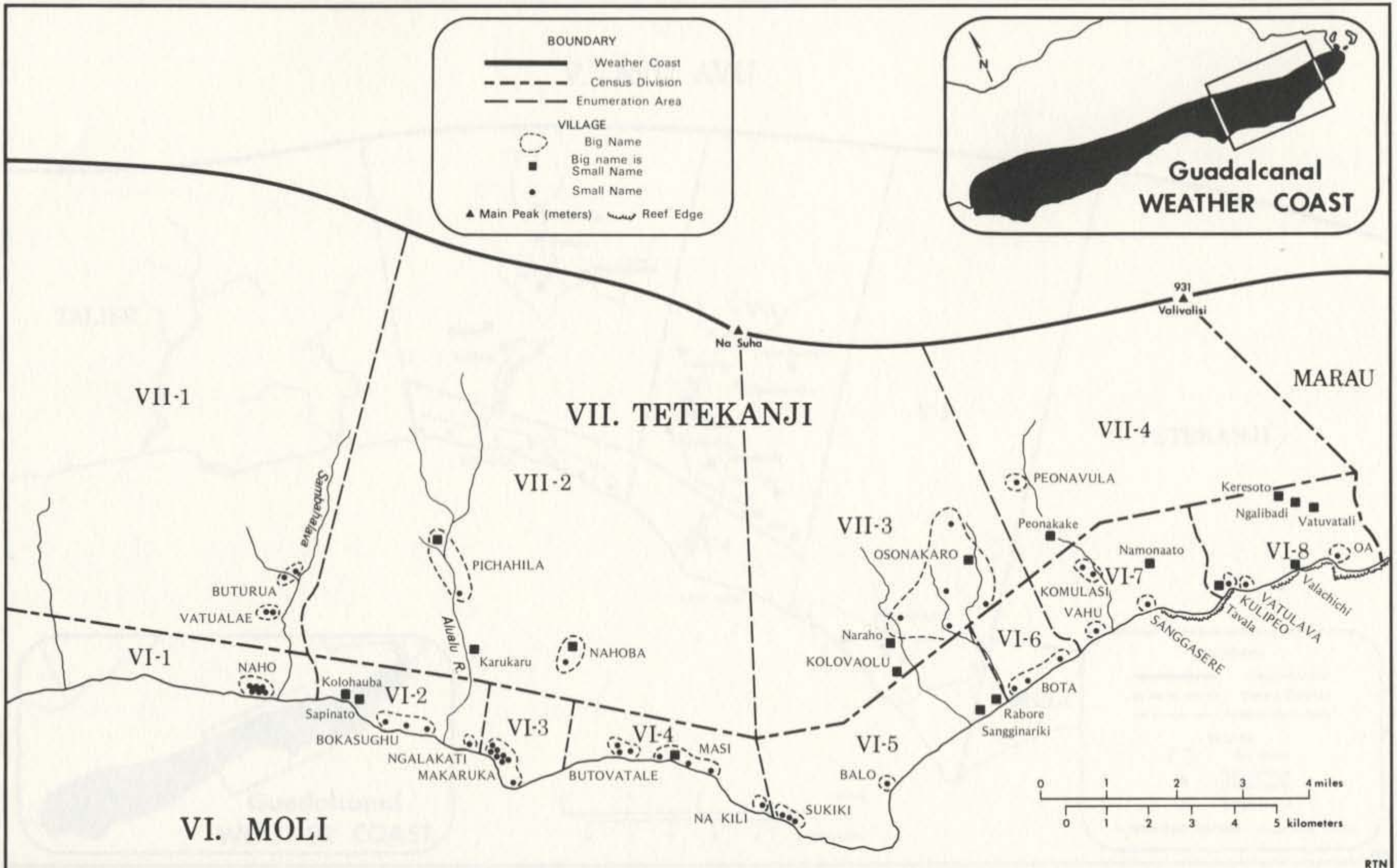
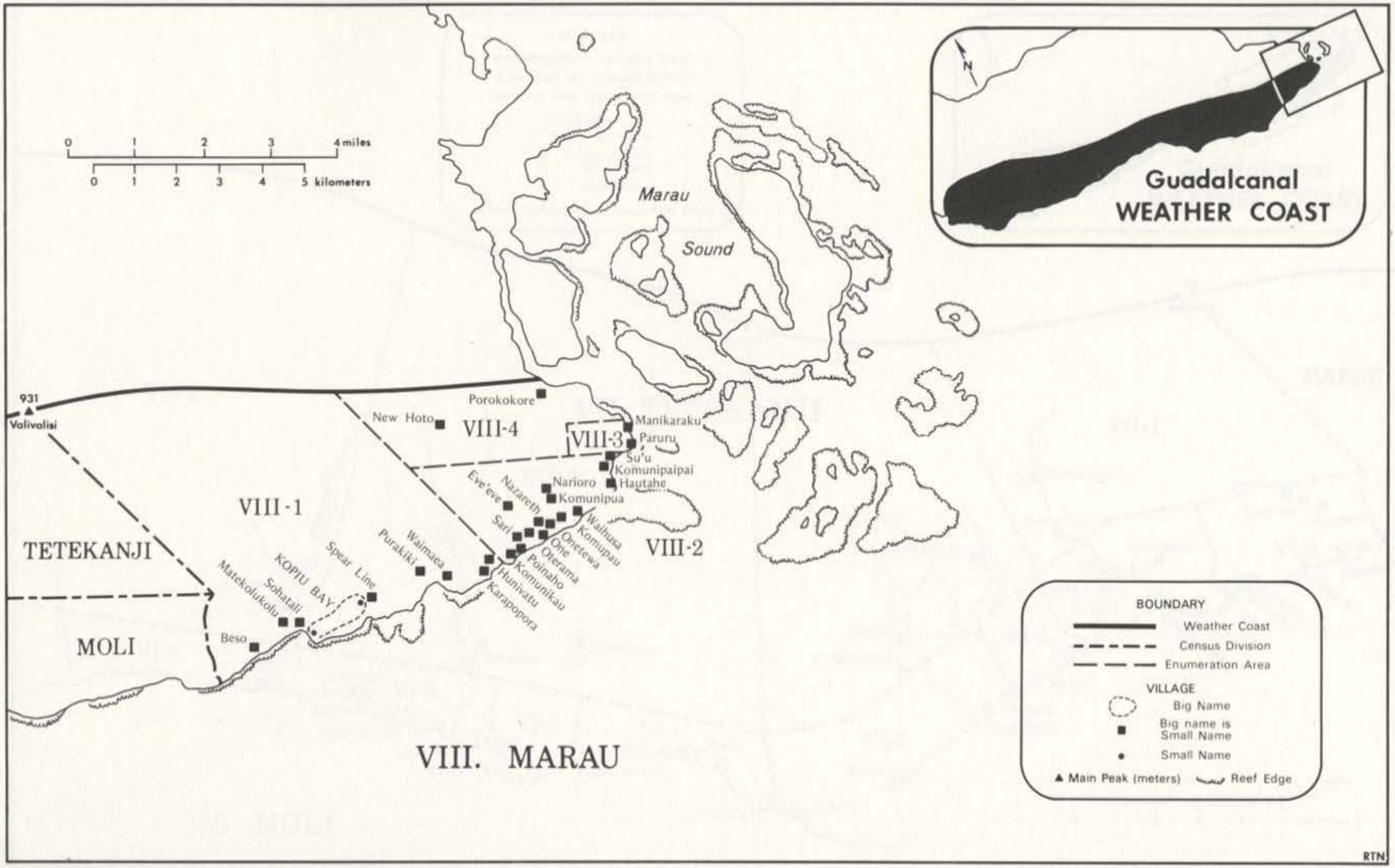

BOUNDARY
Weather Coast
Census Division
Enumeration Area
VILLAGE
Big Name
Big name is Small Name
Small Name
Main Peak (meters)
Reef Edge
N
Guadalcanal
WEATHER COAST
931
Valivalisi
Na Suha
MARAU
VII-1
VII. TETEKANJI
VII-2
VII-3
VII-4
Sambahalava
Alualu R.
PEONAVULA
Keresoto
Ngalibadi
Vatuvatali
Peonakake
Namonaato
VI-8
OA
OSONAKARO
PICHAHILA
BUTURUA
VATUALAE
VI-7
KOMULASI
VAHU
Valachichi
VATULAVA
KULIPEO
Tavala
SANGGASERE
Naraho
KOLOVAOLU
VI-6
Karukaru
NAHOBA
VI-1
NAHO
Kolohauba
VI-2
Sapinato
BOKASUGHU
NGALAKATI
MAKARUKA
VI-3
BUTOVATALE
VI-4
MASI
BOTA
Rabore
Sangginariki
VI-5
BALO
SUKIKI
NA KILI
VI. MOLI
0 1 2 3 4 miles
0 1 2 3 4 5 kilometers
RTN

Figure A6

Figure A7



0 1 2 3 4 miles
0 1 2 3 4 5 kilometers
Marau
Sound
Guadalcanal
WEATHER COAST
N
931
Valivalisi
Porokokore
New Hoto
VIII-4
VIII-3
Manikaraku
Paruru
Su'u
Komunipaipai
Hautahe
Narioro
Komunipua
Eve'eve
Nazareth
Sari
Waihusa
Komupau
Onetewa
One
Oterama
Poinaho
Komunikau
Hunivatu
Karapopora
Waimaea
Purakiki
Spear Line
KOPIU BAY
Sohatali
Matekolukolu
Beso
VIII-1
VIII-2
TETEKANJI
MOLI
VIII. MARAU
BOUNDARY
Weather Coast
Census Division
Enumeration Area
VILLAGE
Big Name
Big name is Small Name
Small Name
Main Peak (meters)
Reef Edge
RTN

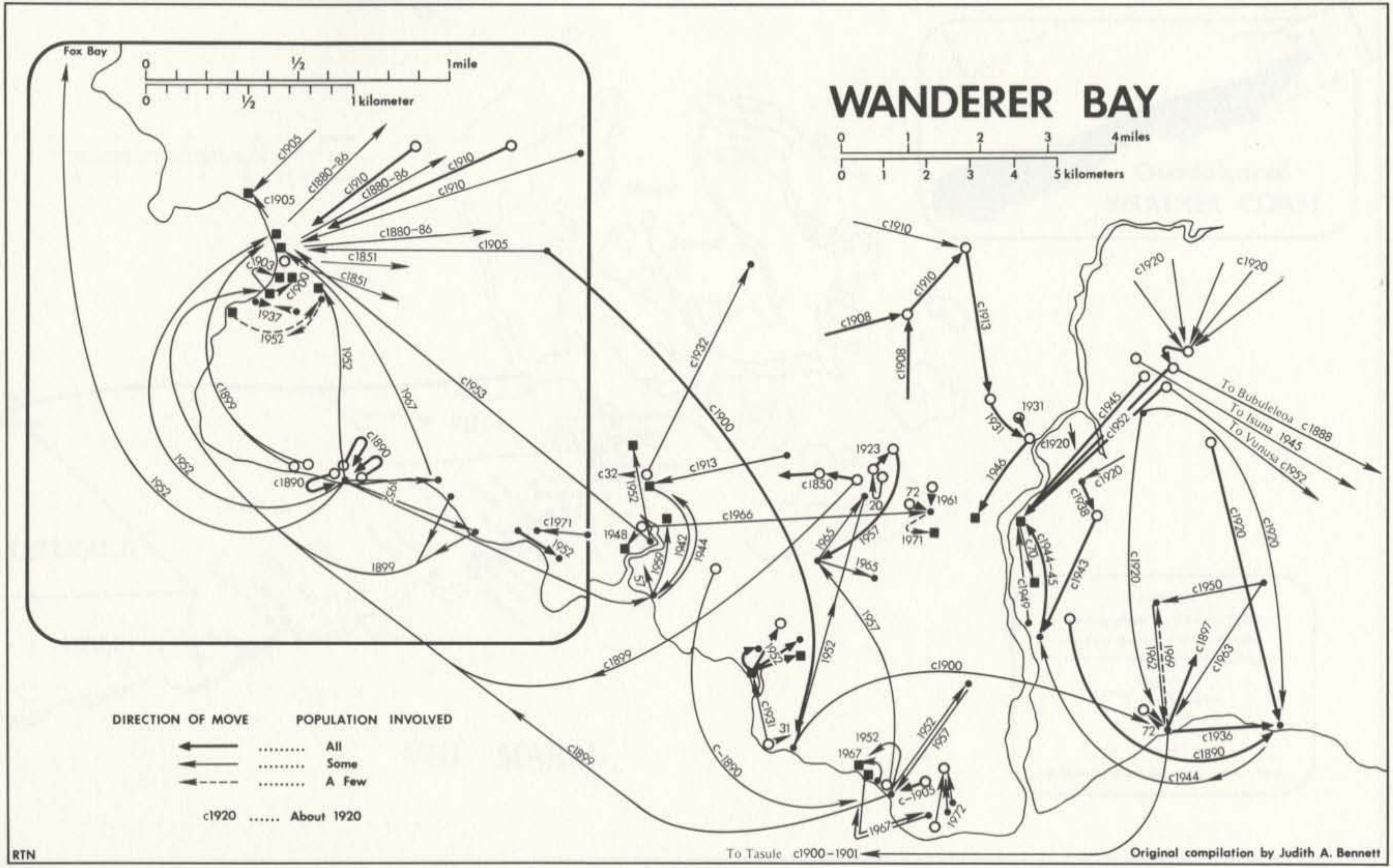

WANDERER BAY
0 1 2 3 4 miles
0 1 2 3 4 5 kilometers
Fox Bay
0 ½ 1 mile
0 ½ 1 kilometer
DIRECTION OF MOVE
POPULATION INVOLVED
All
Some
A Few
c1920 ...... About 1920
To Bubuleleoa c1888
To Isuna 1945
To Vunusa c1952
To Tasule c1900–1901
RTN
Original compilation by Judith A. Bennett

Figure A8

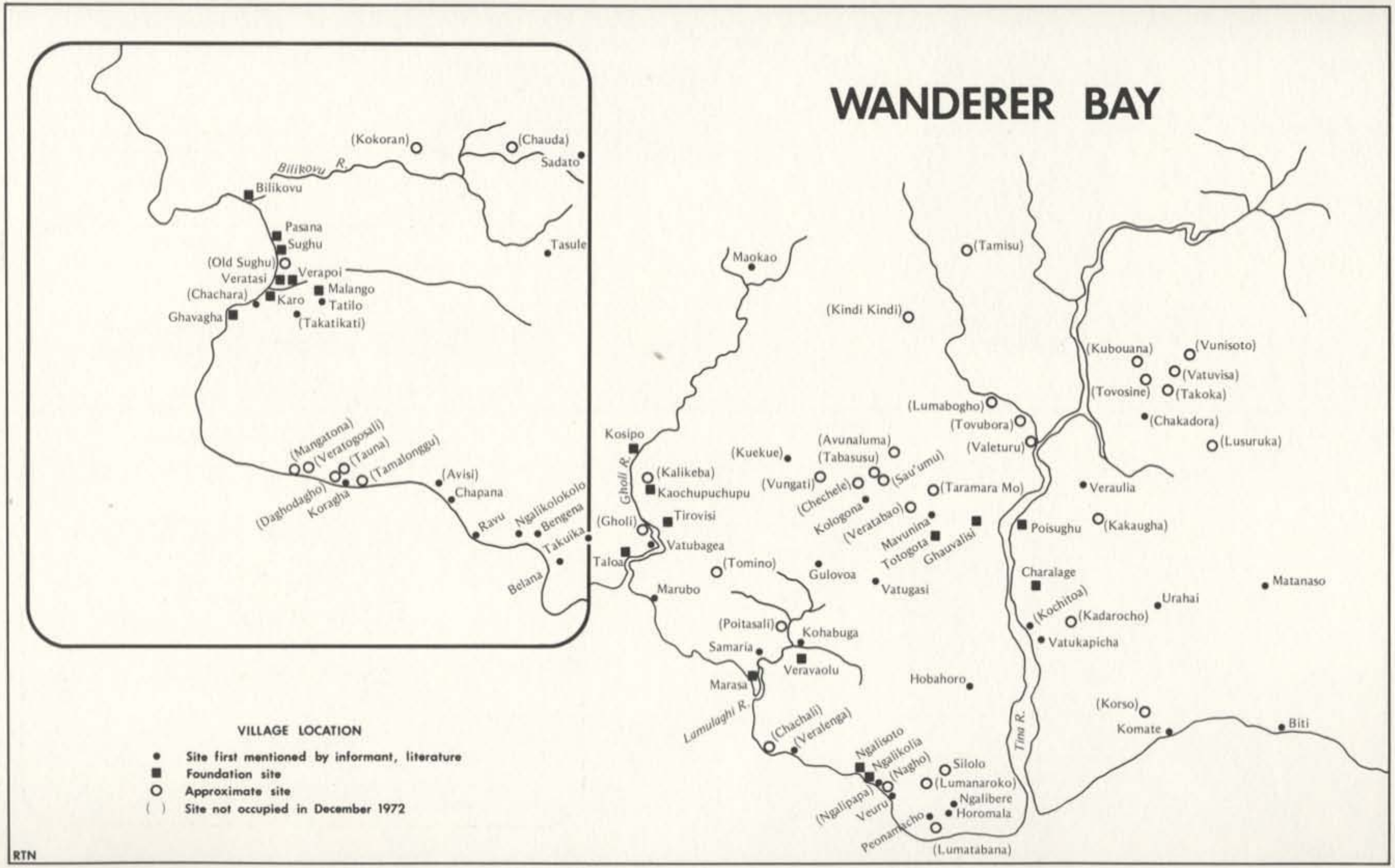
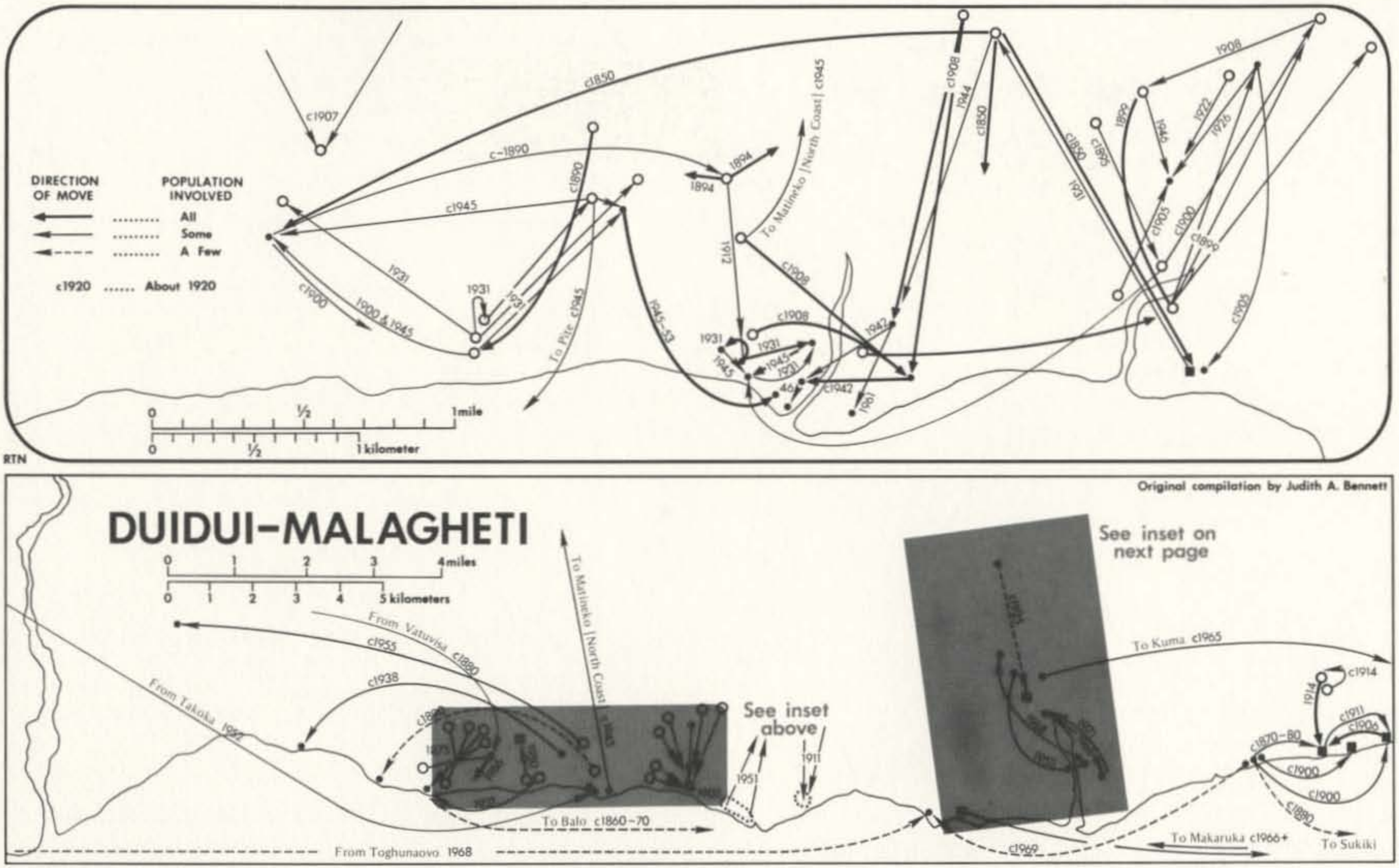

WANDERER BAY
(Kokoran)
(Chauda)
Sadato
Bilikovu R.
Bilikovu
Pasana
Sughu
(Old Sughu)
Veratasi
Verapoi
Malango
(Chachara)
Karo
Tatilo
Ghavagha
(Takatikati)
Tasule
(Mangatona)
(Veratogosali)
(Tauna)
(Tamalonggu)
(Daghodagho)
Koragha
(Avisi)
Chapana
Ravu
Ngalikolokolo
Bengena
Takuika
Belana
Maokao
(Kindi Kindi)
(Tamisu)
Kosipo
Gholi R.
(Kalikeba)
Kaochupuchupu
(Gholi)
Tirovisi
Vatubagea
Taloa
(Tomino)
Marubo
(Kuekue)
(Avunaluma)
(Tabasusu)
(Sau'umu)
(Vungati)
(Chechele)
Kologona
(Veratabao)
Mavunina
Totogota
Ghauvalisi
(Taramara Mo)
Gulovoa
Vatugasi
(Poitasali)
Kohabuga
Samaria
Veravaolu
Marasa
Lamulaghi R.
(Chachali)
(Veralenga)
Ngalisoto
Ngalikolia
(Nagho)
(Ngalipapa)
Veuru
Peonamacho
Silolo
(Lumanaroko)
Ngalibere
Horomala
(Lumatabana)
Hobahoro
(Lumabogho)
(Tovubora)
(Valeturu)
Poisughu
Charalage
(Kochitoa)
Vatukapicha
(Kadarocho)
Tina R.
(Kubouana)
(Vunisoto)
(Vatuvisa)
(Tovosine)
(Takoka)
(Chakadora)
(Lusuruka)
Veraulia
(Kakaugha)
Urahai
Matanaso
(Korso)
Komate
Biti
VILLAGE LOCATION
Site first mentioned by informant, literature
Foundation site
Approximate site
( ) Site not occupied in December 1972
RTN

Figure A9



DIRECTION OF MOVE
POPULATION INVOLVED
All
Some
A Few
c1920 ...... About 1920
0 ½ 1 mile
0 ½ 1 kilometer
RTN
To Matineko [North Coast] c1945
To Pite c1945
Original compilation by Judith A. Bennett
DUIDUI–MALAGHETI
0 1 2 3 4 miles
0 1 2 3 4 5 kilometers
From Vatuvisa c1880
From Takoka 1962
To Matineko [North Coast] c1965
See inset above
See inset on next page
To Kuma c1965
To Balo c1860–70
From Toghunaovo 1968
To Makaruka c1966+
To Sukiki

Figure A10

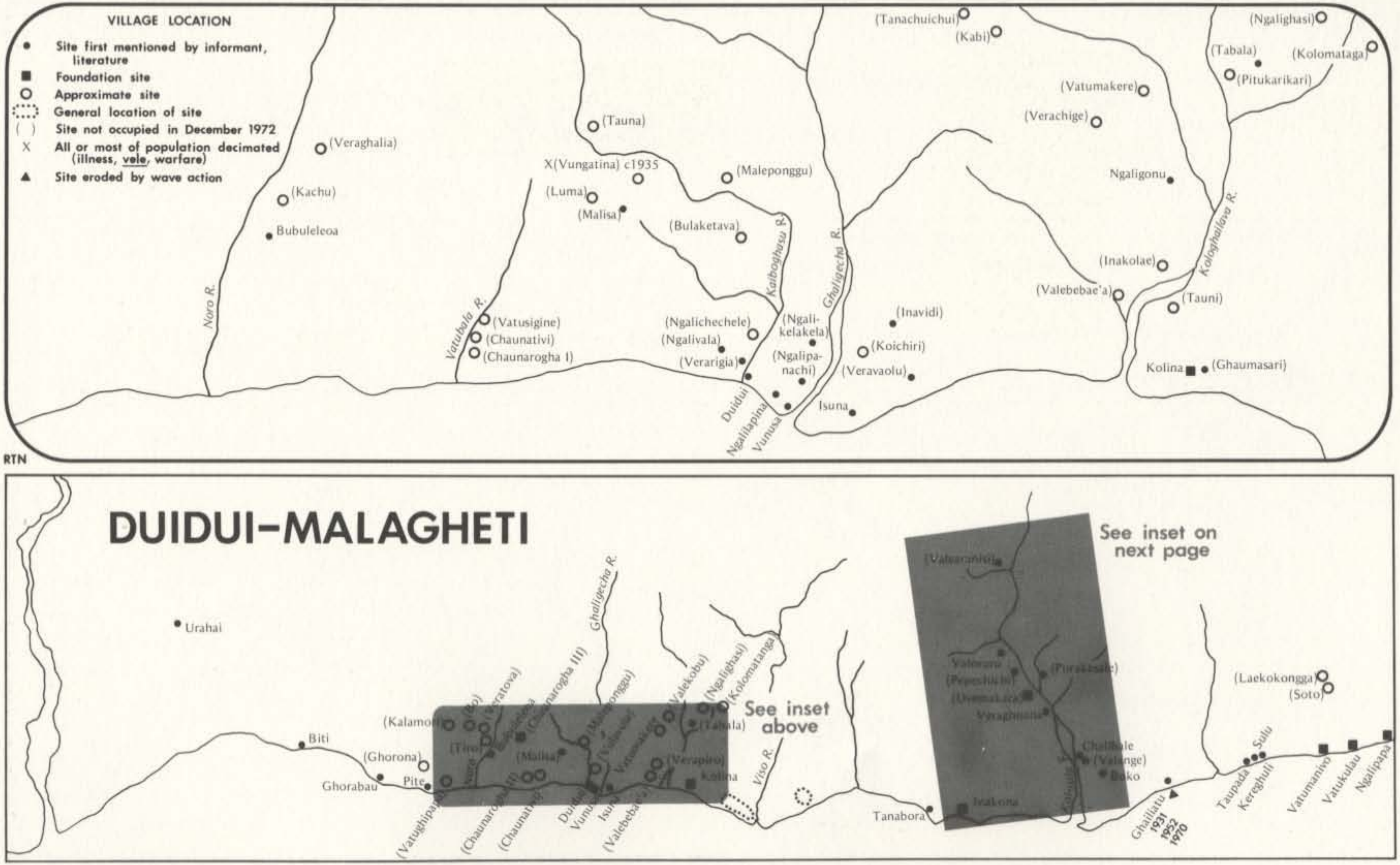

VILLAGE LOCATION
Site first mentioned by informant, literature
Foundation site
Approximate site
General location of site
( ) Site not occupied in December 1972
X All or most of population decimated (illness, vele, warfare)
Site eroded by wave action
(Veraghalia)
(Kachu)
Bubuleleoa
Noro R.
Vatubala R.
(Vatusigine)
(Chaunativi)
(Chaunarogha I)
(Tauna)
X(Vungatina) c1935
(Luma)
(Malisa)
(Maleponggu)
(Bulaketava)
Kaiboghusu R.
(Ngalichechele)
(Ngalivala)
(Verarigia)
(Ngali-kelakela)
(Ngalipa-nachi)
Duidui
Ngalilapina
Vunusa
Isuna
Ghaligecha R.
(Inavidi)
(Koichiri)
(Veravaolu)
(Tanachuichui)
(Kabi)
(Vatumakere)
(Verachige)
Ngaligonu
(Inakolae)
(Valebebae'a)
(Tauni)
Kolina
(Ghaumasari)
Kologhailava R.
(Ngalighasi)
(Tabala)
(Kolomataga)
(Pitukarikari)
RTN
DUIDUI–MALAGHETI
Urahai
Biti
(Ghorona)
Ghorabau
Pite
(Kalamon)
Ghaligecha R.
(Ngalighasi)
(Kolomatanga)
(Tabala)
(Malisa)
(Verapiro)
Kolina
Duidui
Vunusa
Isuna
See inset above
Viso R.
See inset on next page
Tanabora
Chalibale
(Valange)
Boko
(Laekokongga)
(Soto)
Ghailiatu
1931
1952
1970
Taupada
Sulu
Kereghuli
Vatumanivo
Vatukulau
Ngalipapa

Figure A11

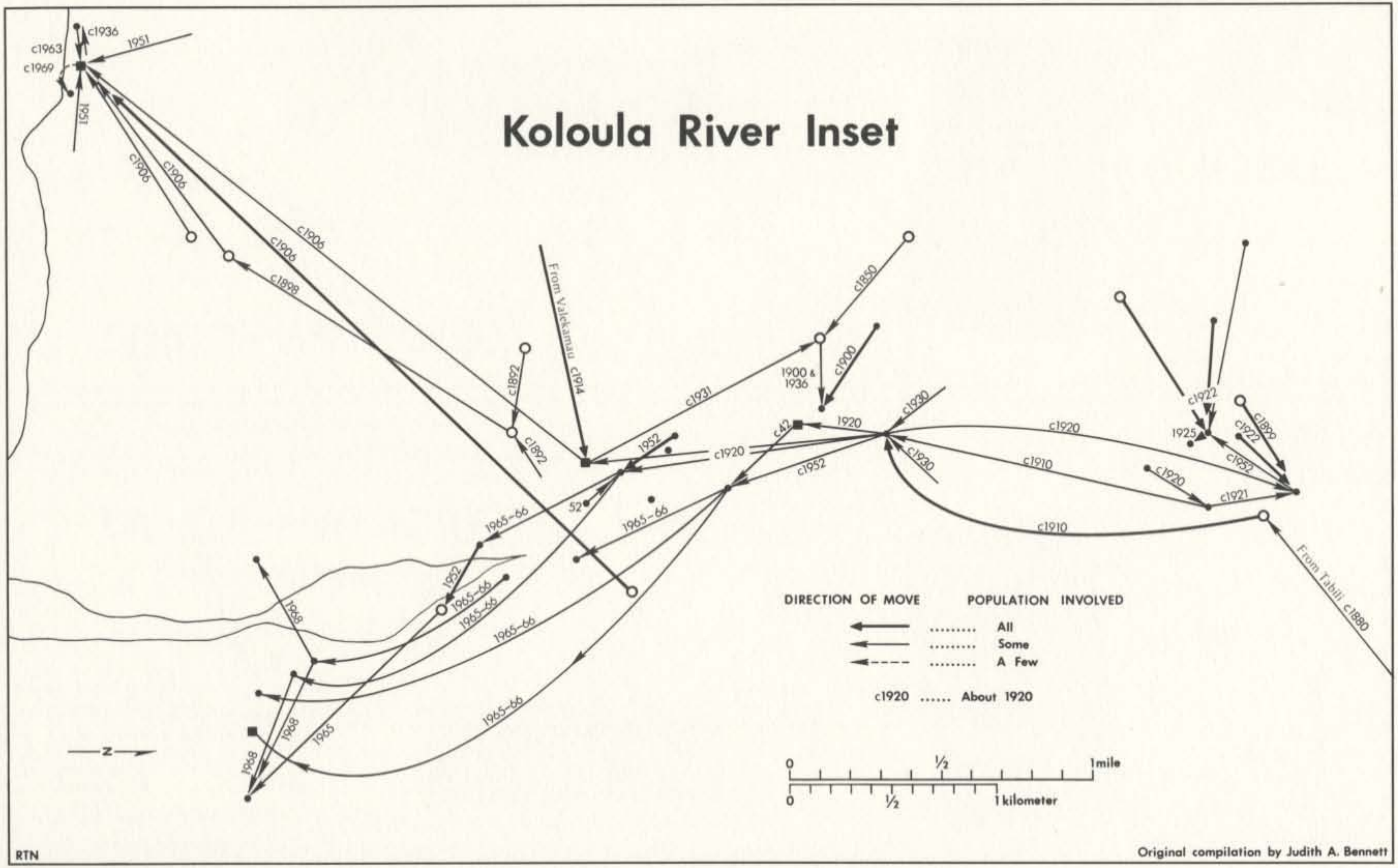

Koloula River Inset
DIRECTION OF MOVE
POPULATION INVOLVED
All
Some
A Few
c1920 ...... About 1920
0
½
1 mile
1 kilometer
From Valekamau c1914
From Tabili c1880
c1936
c1963
c1969
1951
c1906
c1898
c1892
c1850
c1900
1900 & 1936
c1931
c1930
1920
c42
1952
c1920
c1952
52
1965–66
1965
1968
c1910
c1921
c1922
1925
c1899
RTN
Original compilation by Judith A. Bennett

Figure A12

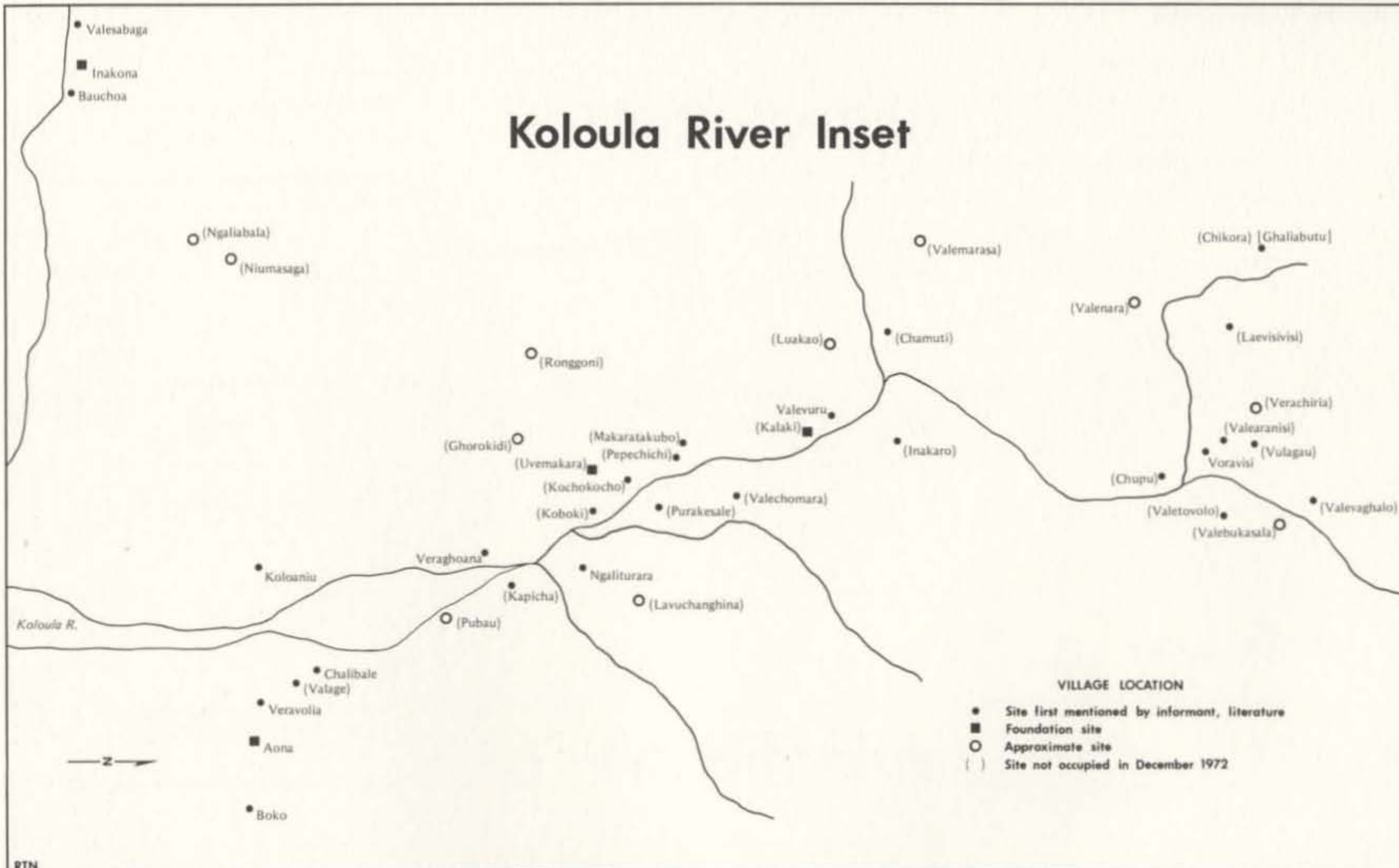

Koloula River Inset
Valesabaga
Inakona
Bauchoa
(Ngaliabala)
(Niumasaga)
(Ronggoni)
(Ghorokidi)
(Uvemakara)
(Makaratakubo)
(Pepechichi)
(Kochokocho)
(Koboki)
(Purakesale)
(Valechomara)
Valevuru
(Kalaki)
(Luakao)
(Chamuti)
(Valemarasa)
(Inakaro)
(Valenara)
(Chikora) [Ghaliabutu]
(Laevisivisi)
(Verachiria)
(Valearanisi)
(Vulagau)
Voravisi
(Chupu)
(Valetovolo)
(Valebukasala)
(Valevaghalo)
Veraghoana
Koloaniu
(Kapicha)
Ngaliturara
(Lavuchanghina)
(Pubau)
Koloula R.
Chalibale
(Valage)
Veravolia
Aona
Boko
N
VILLAGE LOCATION
Site first mentioned by informant, literature
Foundation site
Approximate site
( ) Site not occupied in December 1972
RTN

Figure A13

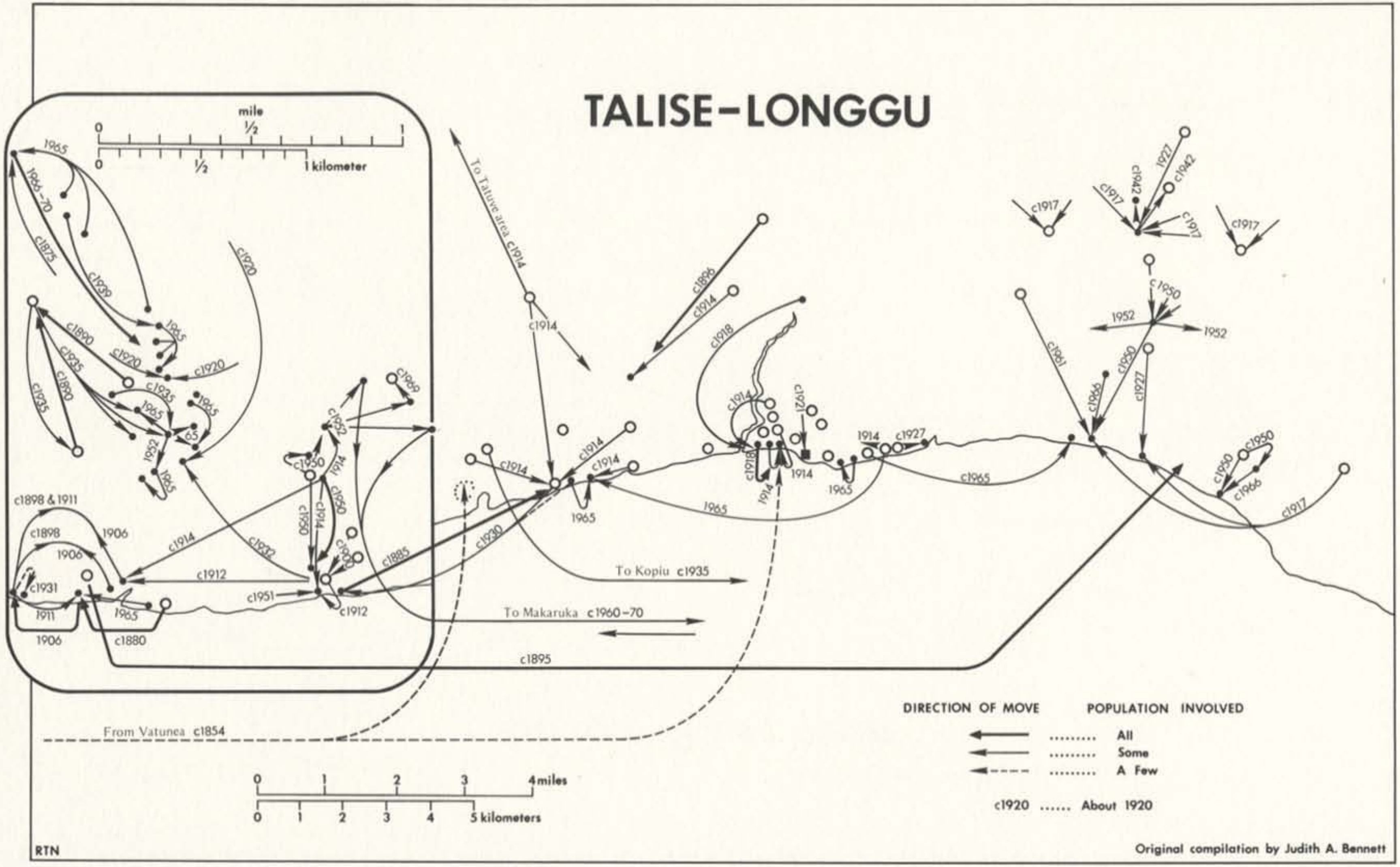
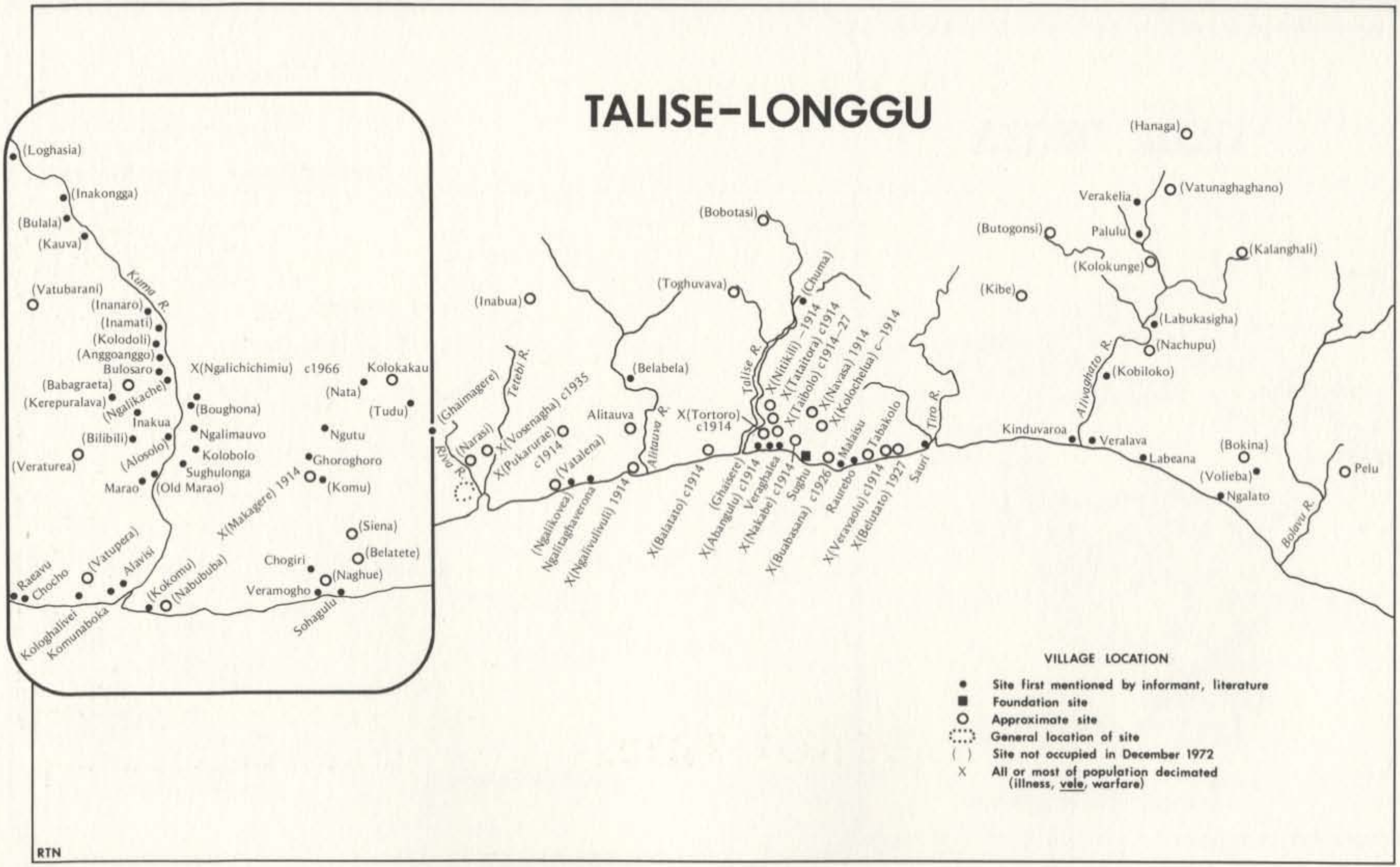

TALISE-LONGGU
mile
0
½
1
0
½
1 kilometer
To Tatuve area c1914
To Kopiu c1935
To Makaruka c1960-70
From Vatunea c1854
c1895
DIRECTION OF MOVE
POPULATION INVOLVED
All
Some
A Few
c1920 ...... About 1920
0
1
2
3
4 miles
0
1
2
3
4
5 kilometers
RTN
Original compilation by Judith A. Bennett

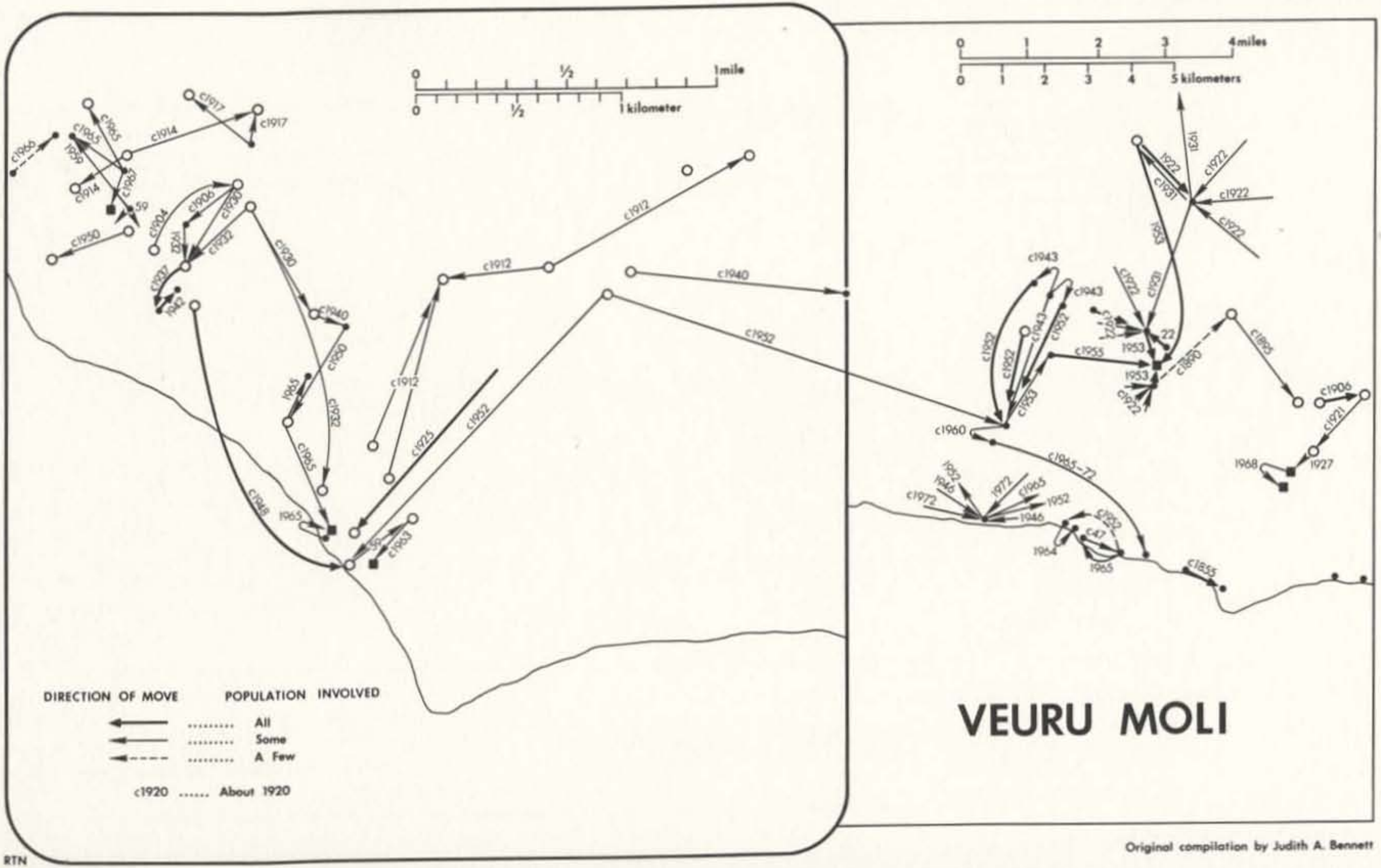
Figure A14

Figure A15



TALISE-LONGGU
(Loghasia)
(Inakongga)
(Bulala)
(Kauva)
Kuma R.
(Vatubarani)
(Inanaro)
(Inamati)
(Kolodoli)
(Anggoanggo)
Bulosaro
X(Ngalichichimiu) c1966
Kolokakau
(Nata)
(Babagraeta)
(Kerepuralava)
(Ngalikache)
(Boughona)
(Tudu)
Inakua
Ngalimauvo
Ngutu
(Bilibili)
Kolobolo
Ghoroghoro
(Veraturea)
(Alosolo)
Sughulonga
Marao
(Old Marao)
X(Makagere) 1914
(Komu)
(Siena)
(Belatete)
Chogiri
(Naghue)
Veramogho
Sohagulu
(Vatupera)
Alavisi
Raeavu
Chocho
(Kokomu)
(Nabububa)
Kologhalivei
Komunaboka
(Ghaimagere)
Tetebi R.
Riva R.
(Narasi)
X(Vosenagha) c1935
X(Pukarurae) c1914
(Inabua)
(Belabela)
Alitauva
Alitauva R.
(Vatalena)
(Ngalikovea)
Ngalitaghaverona
X(Ngalivulivuli) 1914
(Bobotasi)
(Toghuvava)
(Chuma)
Talise R.
X(Tortoro) c1914
X(Nitikili) -1914
X(Tataitora) c1914
X(Taibolo) c1914-27
X(Navasa) 1914
X(Kolochelua) c-1914
X(Balatato) c1914
(Ghaisere)
X(Abangulu) c1914
Veraghalea
X(Nakabe) c1914
Sughu
X(Buabasana) c1926
Raurebo
Malaisu
Tabakolo
X(Veravaolu) c1914
X(Belutato) 1927
Tiro R.
Sauri
(Hanaga)
(Vatunaghaghano)
Verakelia
(Butogonsi)
Palulu
(Kalanghali)
(Kolokunge)
(Kibe)
(Labukasigha)
(Nachupu)
Alivaghato R.
(Kobiloko)
Kinduvaroa
Veralava
Labeana
(Bokina)
(Volieba)
Ngalato
Pelu
Bolavu R.
VILLAGE LOCATION
Site first mentioned by informant, literature
Foundation site
Approximate site
General location of site
( ) Site not occupied in December 1972
X All or most of population decimated (illness, vele, warfare)
RTN

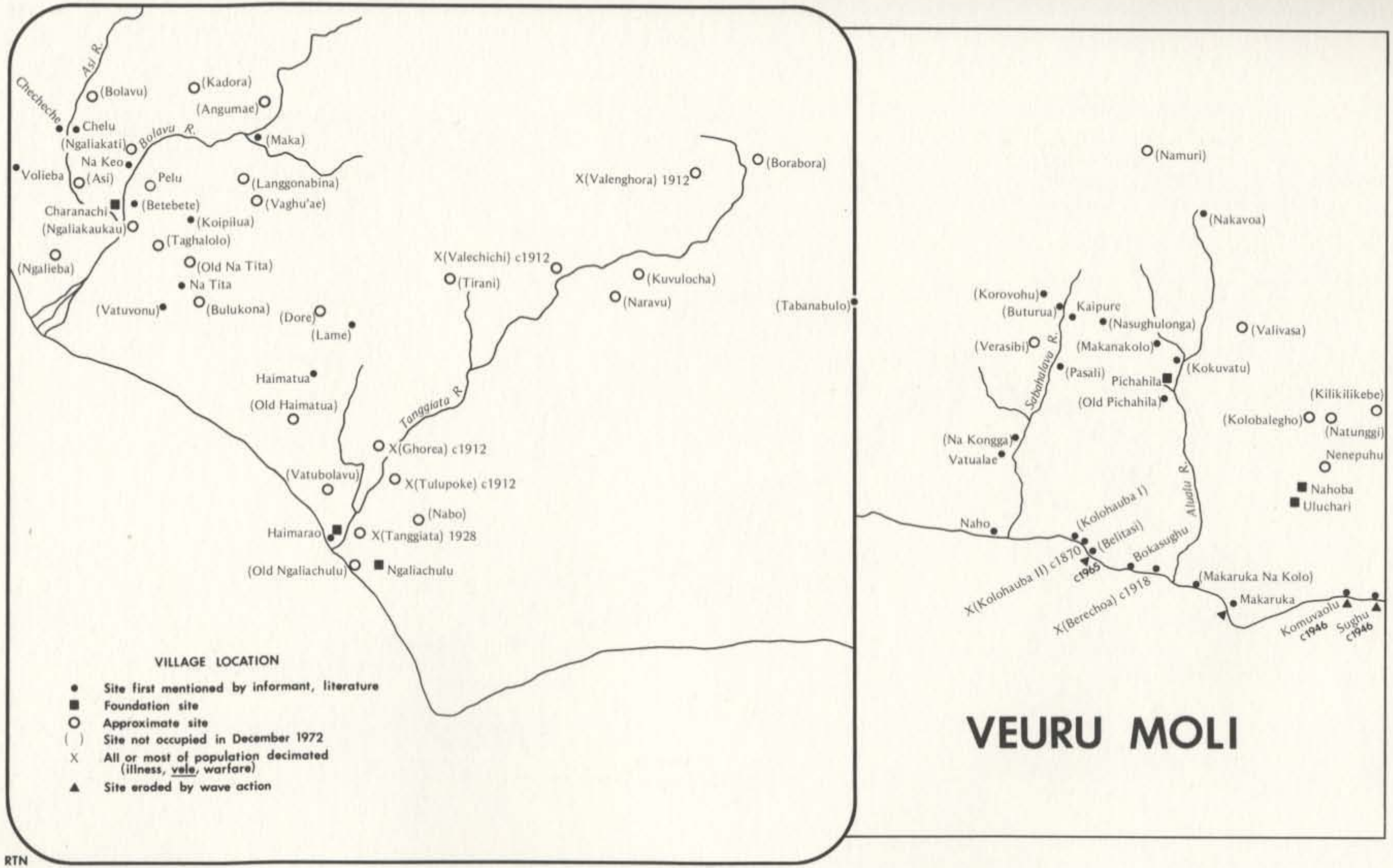
Figure A16



Original compilation by Judith A. Bennett

RTN

Figure A17


VEURU MOLI
VILLAGE LOCATION
• Site first mentioned by informant, literature
■ Foundation site
O Approximate site
( ) Site not occupied in December 1972
X All or most of population decimated (illness, vele, warfare)
▲ Site eroded by wave action
Asi R.
Chechecheche
Bolavu R.
Tanggiata R.
Sabahulava R.
Alualu R.
(Bolavu)
(Kadora)
(Angumae)
Chelu
(Ngaliakati)
(Maka)
Na Keo
Volieba
(Asi)
Pelu
(Langgonabina)
(Vaghu'ae)
Charanachi
(Betebete)
(Koipilua)
(Ngaliakaukau)
(Taghalolo)
(Ngalieba)
(Old Na Tita)
Na Tita
(Vatuvonu)
(Bulukona)
(Dore)
(Lame)
Haimatua
(Old Haimatua)
X(Valenghora) 1912
(Borabora)
X(Valechichi) c1912
(Tirani)
(Kuvulocha)
(Naravu)
X(Ghorea) c1912
(Vatubolavu)
X(Tulupoke) c1912
(Nabo)
Haimarao
X(Tanggiata) 1928
(Old Ngaliachulu)
Ngaliachulu
(Tabanabulo)
(Namuri)
(Nakavoa)
(Korovohu)
(Buturua)
Kaipure
(Nasughulonga)
(Valivasa)
(Verasibi)
(Makanakolo)
(Pasali)
Pichahila
(Kokuvatu)
(Old Pichahila)
(Kilikilikebe)
(Kolobalegho)
(Natunggi)
(Na Kongga)
Vatualae
Nenepuhu
Nahoba
Uluchari
Naho
(Kolohauba I)
(Belitasi)
X(Kolohauba II) c1870
c1965
Bokasughu
X(Berechoa) c1918
(Makaruka Na Kolo)
Makaruka
Komuvaolu c1946
Sughu c1946
RTN

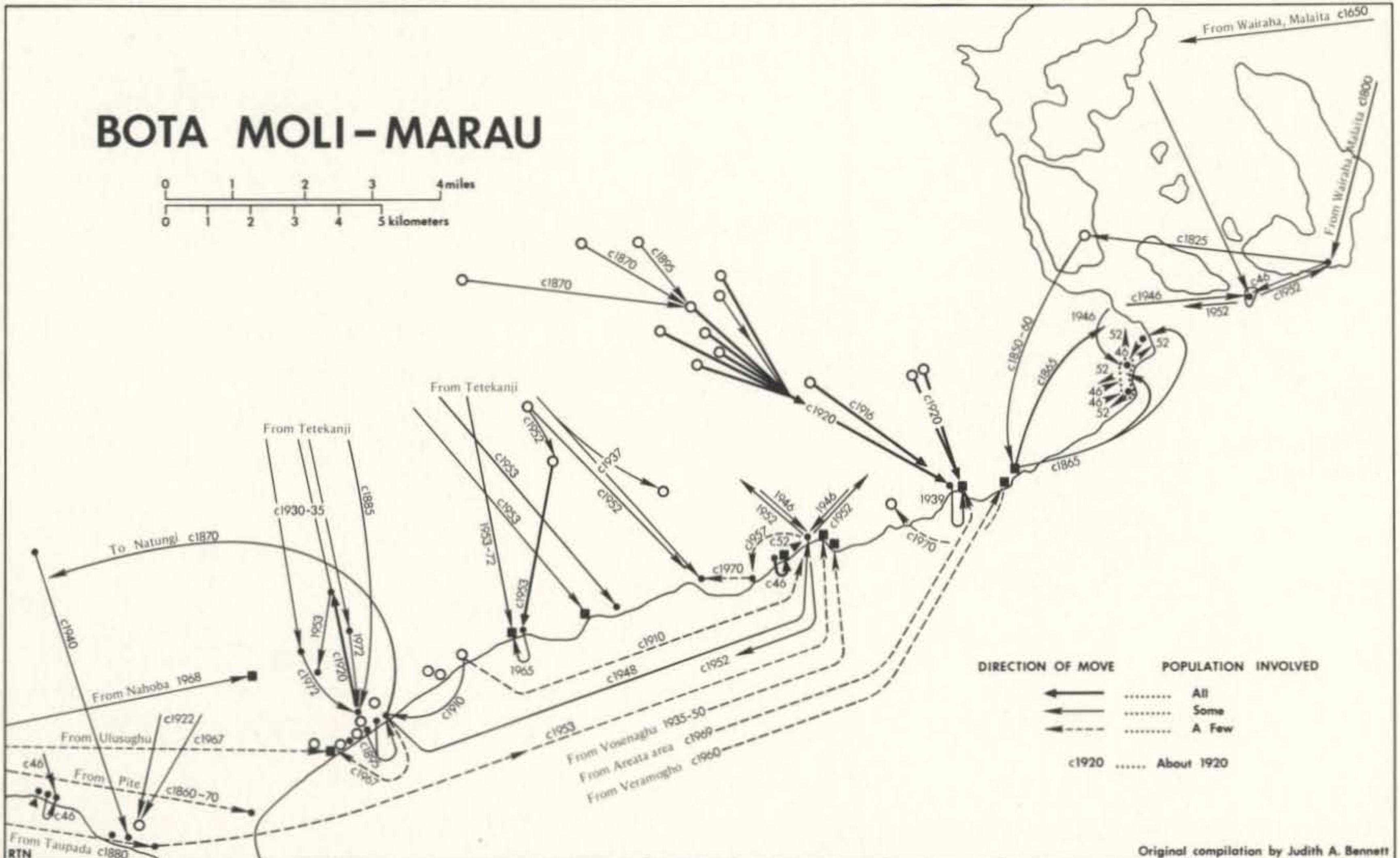

BOTA MOLI - MARAU
0 1 2 3 4 miles
0 1 2 3 4 5 kilometers
From Wairaha, Malaita c1650
From Wairaha, Malaita c1800
From Tetekanji
From Tetekanji
To Natungi c1870
From Nahoba 1968
From Ulusughu
From Pite c1860-70
From Taupada c1880
From Vosenagho 1935-50
From Areata area c1969
From Veramogho c1960
DIRECTION OF MOVE
POPULATION INVOLVED
All
Some
A Few
c1920 ...... About 1920
Original compilation by Judith A. Bennett
RTN

Figure A18

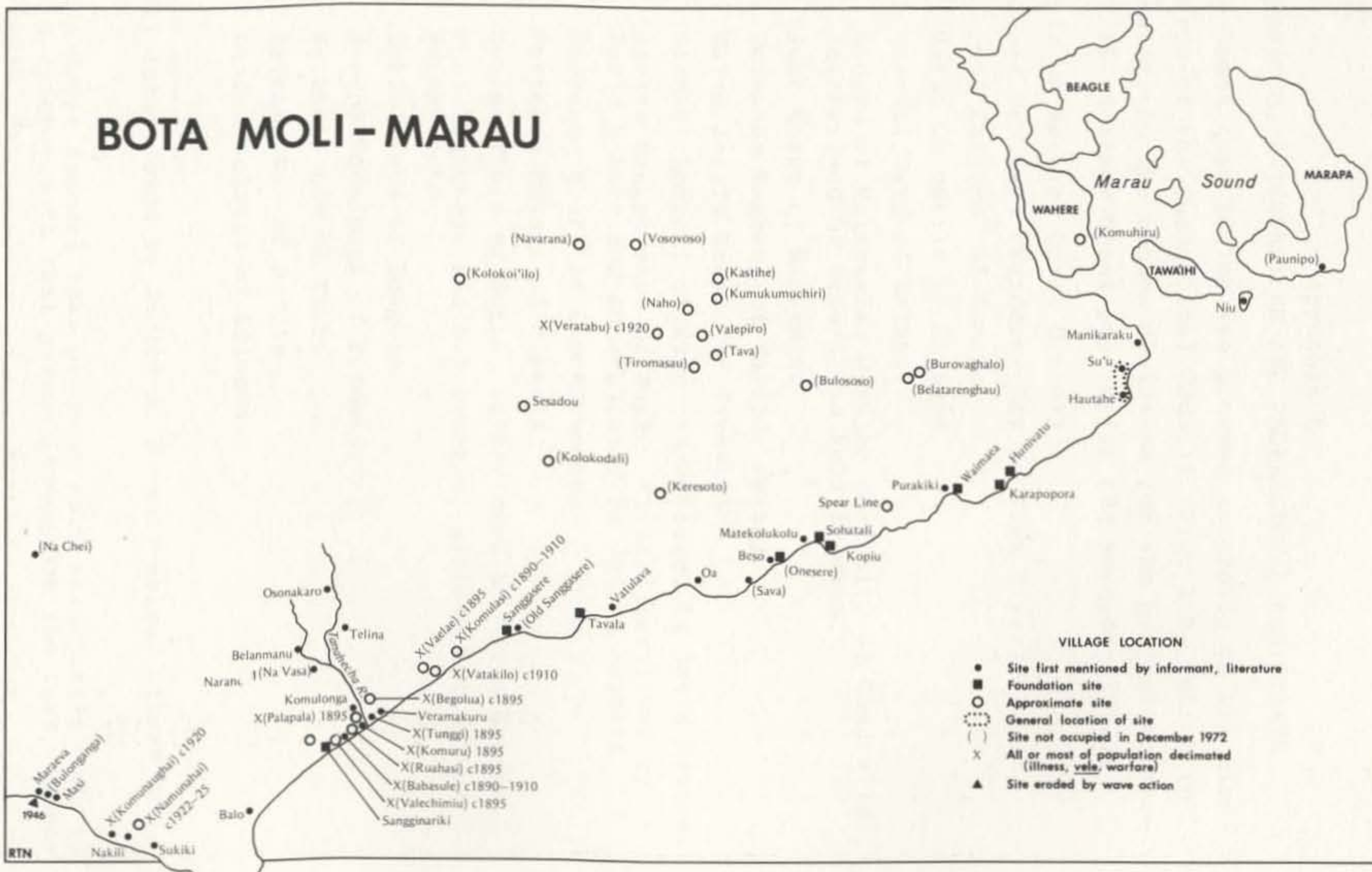

BOTA MOLI – MARAU
BEAGLE
Marau Sound
MARAPA
WAHERE
TAWAIHI
(Komuhiru)
(Paunipo)
Niu
Manikaraku
Su'u
Hautahe
(Navarana)
(Vosovoso)
(Kolokoi'ilo)
(Kastihe)
(Kumukumuchiri)
(Naho)
X(Veratabu) c1920
(Valepiro)
(Tava)
(Tiromasau)
(Bulososo)
(Burovaghalo)
(Belatarenghau)
Sesadou
(Kolokodali)
(Keresoto)
Spear Line
Purakiki
Waimaea
Hunivatu
Karapopora
Matekolukolu
Sohatali
Kopiu
Beso
(Onesere)
Oa
(Sava)
Vatulava
Tavala
(Na Chei)
Osonakaro
Telina
X(Vaelae) c1895
X(Komulasi) c1890–1910
Sanggasere
(Old Sanggasere)
Belanmanu
(Na Vasa)
X(Vatakilo) c1910
Komulonga
X(Begolua) c1895
X(Palapala) 1895
Veramakuru
X(Tunggi) 1895
X(Komuru) 1895
X(Ruahasi) c1895
X(Babasule) c1890–1910
X(Valechimiu) c1895
Sangginariki
Balo
Maraeva
(Bulonganga)
Mau
1946
X(Komunaughai) c1920
X(Namunahai) c1922–25
Nakili
Sukiki
RTN
VILLAGE LOCATION
Site first mentioned by informant, literature
Foundation site
Approximate site
General location of site
( ) Site not occupied in December 1972
X All or most of population decimated (illness, vele, warfare)
Site eroded by wave action

Figure A19

Appendix B

INFORMANTS, INTERPRETERS AND PROFESSIONAL ASSISTANTS

The names that follow are grouped according to the electoral wards of the Guadalcanal Council (Fig. 1.5), which in turn constituted the census divisions for the project enumeration of the Weather Coast population (27 November 1972).

Informants on Weather Coast History[1]

I. Wanderer Bay Ward (Wanderer Bay to Tina River)

1. Paul Chinogo[2] of Kosipo
2. Marao Chipatila of Koragha
3. Gafrial Dato of Belana
4. Elders of Melanesian Mission community of Ghauvalisi, interviewed by Robert and Keri Freeman.
5. John Kenge of Mauvinina
6. Bernando Kombesi of Tatilo, Malango
7. Maria Josefa Kuandi of Tirovisi
8. Michael Longoni of Karo, interviewed by David McLure.
9. Martin Manganimate of Sughu, first interviewed by David McLure and subsequently by Judith Bennett.
10. Bernando Mouri of Kaochupuchupu
11. Patteson Nganga of Samaria
12. Benigo Tiula of Sughu, interviewed by David McLure.
13. Paul Toghobela and his brother, Aloisio Vilimi, of Veragachoho.
14. Saniel Tova of Bengena
15. Joseph Tovalonga of Tirovisi
16. Nathnail Ulu of Veuru
17. Erimano Vei of Horova
18. Nelson Volanga of Kologona

---

[1] All interviewed by Judith A. Bennett unless otherwise stated.

[2] The Roman numeral that precedes each informant's name is the basic reference to that person throughout the text, especially chapter 2.

II. Duidui Ward (Tina River to Koloula Point)

19. Timmy Chaku of Inakona (c.v.)
20. Gaius and elders of Poisughu (b.v.)
21. Pasigholu Kalae'a of Ghorabau
22. Ruth Kavele of Biti
23. Rutu Kivava of Bauchoa
24. Ben Mbelambua of Ghorabau
25. John Mbumbuparumbau of Isuna
26. Benjamin Pangetaua of Valebora
27. Samson Rasile of Komate
28. Susana Sekona of Bauchoa
29. Jimuel Singe of Tanabora
30. Alverti Tongorovo of Ngalilabelabe

III. Vatukulau Ward (Koloula Valley to Kuma River)

31. Asaph Alo of Kuma
32. Jim Bana of Bulasaro
33. Benjamin, Jackson, Gray and Thomas, spokesmen of the Garauvatale "line" of Vatukulau
34. Chele of Valevuru
35. Cheonikai of Valearanisi
36. Marasiliano Choki of Taupada
37. Charlie Churu of Ngaliturara
38. Johnny Ghila of Sughulonga
39. Evo Kapini of Kolovosu, Kuma, near Koloula River
40. Elson Kavaro of Haliatu
41. Peter Kimbo of Veravolia
42. Amule Kolima of Valearanisi
43. Kanutou Lambangi of Kuma, near Koloula River
44. John Lambi of Kologhalivei
45. Lucius Mai of Valevuru, interviewed by Elizabeth Muhr Kamin - aka and subsequently by Judith Bennett.
46. Elders of Nakua
47. Pasesi Perolae of Veravolia
48. Charity Panda of Ngaliturara
49. Cho Ranga of Marao

50. Aloysio Sangu of Chocho
51. Malaghai Saniele of Raeavu
52. Tatakuva of Sughulonga
53. John Tovar of Ngalipapa
54. Luvusia Willy of Vatumanivo

IV. Talise Ward (Kuma River to Charilava River)

55. Kalisto Desi'ea of Veraghalea
56. Francis Imbi of Ngutu
57. Hari Kala of Sohagulu
58. Ghesi Kimbo of Belabela
59. Heman Lambughai'a of Veramogho
60. Rikeena Matekiki of Raurebo
61. Jo Ongavi of Choghiri
62. Timmy Seti of Longuna
63. Mania Savino of Ghoroghoro
64. Charlie Tave of Ghaisere
65. Jimmy Vataloughu of Choghiri
66. Ambraham Verembola of Mandakacho
67. Bereto Voliantoghu of Ngalitaghaverona

V. Avu Avu Ward (Charilava River to Lauvi Lagoon)

68. Dominico Alebua of Haimarao
69. Martia Alverti, Laurence Vungalaela, Ubi Anderiano of Larbeano, Longgu
70. Casimero Cheniporo of Veramatanga, Ngaliachulu
71. John Gila of Checheche
72. Jack Palau of Veralava
73. Sesarior Pende of Ngalichulu
74. Ernisto Tala of Charanachi
75. Ben Toughavera of Haimarao
76. Maria Vura of Na Tita
77. Kabutoulaka of Longgu bush

VI. Moli Ward (Lauvi Lagoon to Oa)

78. Are Ania of Makaruka
79. Reme Ava of Komukonia, Masi
80. Bili of Makaruka, interviewed by Thomas Foye.

81. Jack Bone of Kolohauba
82. Charlie Ghesi of Sougatali
83. Serando Hamahama of Sanggasere
84. Alice Mary Kaevingu of Balo
85. Hilda Ketala of Balo
86. Voho Laeni and Basilio Mangalu of Nakili
87. Camillo Lusu of Balo
88. Napthali Markia of Visanaoru
89. Lonsdale Nachivi of Golungolu, Bokasughu
90. Berndito Ola of Rabore
91. Kombu Sapi of Sangginariki
92. Evo Tanisivachi of Sanggasere
93. George Unanisiva of Oa
94. Jocimo Ungsai of Berechoa
95. Augustine Vara of Oa
96. Ludivico Lambina of Naho

VII. Tetekanji Ward (Lauvi Lagoon to Oa)

97. Billy Erumania of Uluchari
98. Vanetihe Koimakana of Belanimanu

VIII. (Birao (Marau) Ward (Sava to Hautahe)

99. Samuel Kimate of Waimaea
100. Vitorino Komana of Matekolokolo
101. John Koti of Kopiu
102. Charlie Lambou of Waimaea
103. Naomane of Hautahe, interviewed by Eric Witt and subsequently by Judith Bennett
104. Donasiano Pororasu of Hautahe
105. Aliki Popoi of Beso
106. Piro Tatau of Purakiki

General Informants, Interpreters and Census Enumerators

I. Wanderer Bay Ward

Michael Bobongi of Sughu
Ishmael of Poisugu
Charles Kologoi of Sughu
Juda Labua of Sughu
Dennis Matagu of Ghauvalisi
Methodio Nunu of Sughu
Patrina of Ghauvalisi
Silas of Kologona

II. Duidui Ward

Timotheus Chasli of Vatuloki
Roselyn Haubata of Ngalilapina
Liston Kalea of Biti
John Kekevera of Poisugu
Leni of Duidui
Ishmael Lovaivatu of Vatuloki
Irene Tagarakamana of Vunusa
Julia Tagarakamana of Kolina
Dudley Vanganisari of Kolina
Sendry Voghinia of Nalivovo

III. Vatukulau Ward

Jonathon Apia of Boko
Francis Chuku
Sirilo Gordon
Jackson Gray
Lebi and wife of Valearanisi
Jezeriel Longasai
Pende of Vatukulau
Augustine Ray
Raphael Ray
Apollus Revelli of Aona
Schola of Malagheti
Stephen and wife of Veraghoana
Timmeous of Valevuru

IV. Talise Ward

Russell Atu
Joachim
Victor Kikiti
Albert Pitu
Billy Vekea

V. Avu Avu Ward

Gerald Boreni of Naho
Clement Labina of Naho
Poli Naretiae of Avu Avu
Belasio Parisi of Longgu
Henry Togovotu of Longgu
Wenceslas Voliaba of Longgu

VI. Moli Ward

Adrian Bentley of Makaruka
Billy of Makaruka
John Billy of Nakili
Patricio Bubuli, Jr., of Makaruka
John Harvey of Sukiki
Mange Onorio of Sukiki
Leoni Pai of Makaruka
Justice Patchu of Makaruka
Peter Sageru of Berechoa
Melchior Topagu of Makaruka
Tovosiu of Sukiki
Ulea of Komuvaolu

VII. Tetekanji Ward

Selestino Beto of Pinchahila
Elison Moku of Uluchari
Selwyn Ropu of Uluchari

VIII. Birao (Marau) Ward

William Amasi of Komupau
Alfred Chuchuni of Waimaea
Makario Makoke of Komunipua
Julian Ninipua of Su'u
Donasiano Pororasu of Komunipaipai

1972 GUADALCANAL WEATHER COAST CENSUS, DIVISION 1

				VISITORS			USUAL RES ABSENT			USUAL RES PRESENT			TOTAL DE JURE (QUES 6)				TOTAL DE FACTO (QUES 6)			
DIV	LA	BIG NAME	SMALL NAME	M	F	T	M	F	T	M	F	T	H	M	F	T	H	M	F	T
1	1	PIDOMAUVO	PIDOMAUVO	0	0	0	2	0	2	4	4	8	1	6	4	10	1	4	4	8
1	1	PIDOMAUVO		0	0	0	2	0	2	4	4	8	1	6	4	10	1	4	4	8
1	1	SUGHU	KALETONIA	0	1	1	2	0	2	4	7	11	2	6	7	13	2	4	8	12
1	1	SUGHU	KOILOSUAMONDRU	1	0	1	14	7	21	33	37	70	17	47	44	91	17	34	37	71
1	1	SUGHU	NGALIPAGO	1	3	4	0	0	0	4	2	6	2	4	2	6	2	5	5	10
1	1	SUGHU	PASANA	1	2	3	6	4	10	12	12	24	4	18	16	34	4	13	14	27
1	1	SUGHU	SUGHU SCHOOL	38	41	79	0	0	0	5	2	7	1	5	2	7	2	43	43	86
1	1	SUGHU	VESALEVUGA	1	1	2	1	0	1	11	13	24	5	12	13	25	5	12	14	26
1	1	SUGHU	VERAPOI	1	0	1	5	2	7	15	17	32	9	20	19	39	9	16	17	33
1	1	SUGHU	VERATASI	0	0	0	3	3	6	14	8	22	5	17	11	28	5	14	8	22
1	1	SUGHU		43	48	91	31	16	47	98	98	196	45	129	114	243	46	141	146	287
1	1	VAI	VAI	0	0	0	3	3	6	5	4	9	2	8	7	15	2	5	4	9
1	1	VAI		0	0	0	3	3	6	5	4	9	2	8	7	15	2	5	4	9
1	1	VURAHOBA	KONAVECHU	0	0	0	3	1	4	0	6	6	1	3	7	10	1	0	6	6
1	1	VURAHOBA	VURAHOBA	0	0	0	0	0	0	3	4	7	1	3	4	7	1	3	4	7
1	1	VURAHOBA		0	0	0	3	1	4	3	10	13	2	6	11	17	2	3	10	13
	1			43	48	91	39	20	59	110	116	226	50	149	136	285	51	153	164	317
1	2	GHAVAGHA	GHAVAGHA	1	7	8	2	1	3	5	7	12	2	7	8	15	2	6	14	20
1	2	GHAVAGHA		1	7	8	2	1	3	5	7	12	2	7	8	15	2	6	14	20
1	2	KARO	KARO	0	0	0	0	0	0	3	5	8	3	3	5	8	3	3	5	8
1	2	KARO		0	0	0	0	0	0	3	5	8	3	3	5	8	3	3	5	8
1	2	MANGALAO	GLOUNA	0	0	0	0	1	1	4	4	8	2	4	5	9	2	4	4	8
1	2	MANGALAO	MANGALAO	0	0	0	0	0	0	1	0	1	1	1	0	1	1	1	0	1
1	2	MANGALAO	VERAGACHOHA	0	0	0	0	0	0	3	2	5	1	3	2	5	1	3	2	5
1	2	MANGALAO		0	0	0	0	1	1	8	6	14	4	8	7	15	4	8	6	14
1	2	SADATO	SADATO	0	0	0	3	4	7	3	6	9	2	6	10	16	2	3	6	9
1	2	SADATO		0	0	0	3	4	7	3	6	9	2	6	10	16	2	3	6	9
1	2	TASULE	TASULE	0	0	0	2	0	2	4	2	6	1	6	2	8	1	4	2	6
1	2	TASULE		0	0	0	2	0	2	4	2	6	1	6	2	8	1	4	2	6
1	2	TATILO	MALANGO	0	0	0	8	4	12	8	10	18	5	16	14	30	5	8	10	18
1	2	TATILO		0	0	0	8	4	12	8	10	18	5	16	14	30	5	8	10	18
	2			1	7	8	15	10	25	31	36	67	17	46	46	92	17	32	43	75
1	3	BELANA	BELANA	0	0	0	2	0	2	2	5	7	1	4	5	9	1	2	5	7
1	3	BELANA		0	0	0	2	0	2	2	5	7	1	4	5	9	1	2	5	7
1	3	BENGENA	GEU	2	1	3	5	4	9	15	18	33	9	20	22	42	8	17	19	36
1	3	BENGENA		2	1	3	5	4	9	15	18	33	9	20	22	42	8	17	19	36
1	3	HOROVA	HOROVA	0	0	0	2	2	4	18	14	32	5	20	16	36	5	18	14	32
1	3	HOROVA		0	0	0	2	2	4	18	14	32	5	20	16	36	5	18	14	32
1	3	KACCHUPUCHUPU	KACCHUPUCHUPU	0	0	0	1	0	1	2	2	4	2	3	2	5	2	2	2	4
1	3	KACCHUPUCHUPU		0	0	0	1	0	1	2	2	4	2	3	2	5	2	2	2	4
1	3	KORAGHA	KORAGHA	1	3	4	0	0	0	6	7	13	2	6	7	13	2	7	10	17
1	3	KORAGHA		1	3	4	0	0	0	6	7	13	2	6	7	13	2	7	10	17
1	3	KOSIPO	KOSIPO	0	0	0	0	0	0	19	10	29	6	19	10	29	6	19	10	29
1	3	KOSIPO		0	0	0	0	0	0	19	10	29	6	19	10	29	6	19	10	29
1	3	MAISU	CHAPANA	0	0	0	1	0	1	5	3	8	2	6	3	9	2	5	3	8
1	3	MAISU	LUMANAROKO	0	0	0	1	1	2	13	11	24	5	14	12	26	5	13	11	24
1	3	MAISU	NGALITATASI	0	0	0	0	1	1	3	5	8	1	3	6	9	1	3	5	8
1	3	MAISU		0	0	0	2	2	4	21	19	40	8	23	21	44	8	21	19	40
1	3	MAOKAO	MAOKAO	0	0	0	10	1	11	13	11	24	4	23	12	35	4	13	11	24
1	3	MAOKAO		0	0	0	10	1	11	13	11	24	4	23	12	35	4	13	11	24

1972 GUADALCANAL WEATHER COAST CENSUS,DIVISION 1

DIV	EA	BIG NAME	SMALL NAME	VISITORS M	VISITORS F	VISITORS T	USUAL RES ABSENT M	USUAL RES ABSENT F	USUAL RES ABSENT T	USUAL RES PRESENT M	USUAL RES PRESENT F	USUAL RES PRESENT T	TOTAL DE JURE (QUES 6) H	TOTAL DE JURE (QUES 6) M	TOTAL DE JURE (QUES 6) F	TOTAL DE JURE (QUES 6) T	TOTAL DE FACTO (QUES 6) H	TOTAL DE FACTO (QUES 6) M	TOTAL DE FACTO (QUES 6) F	TOTAL DE FACTO (QUES 6) T
1	3	MARUBO	GILUNAPAI	0	0	0	0	2	2	1	2	3	1	1	4	5	1	1	2	3
1	3	MARUBO	BELEGOKALA	0	0	0	5	1	6	4	4	8	1	9	5	14	1	4	4	8
1	3	MARUBO		0	0	0	5	3	8	5	6	11	2	10	9	19	2	5	6	11
1	3	NGALIKOLOKOLO	NGALIKOLOKOLO	0	0	0	0	1	1	6	6	12	2	6	7	13	2	6	6	12
1	3	NGALIKOLOKOLO		0	0	0	0	1	1	6	6	12	2	6	7	13	2	6	6	12
1	3	ONESEKE	ONESEKE	0	0	0	2	3	5	0	0	0	1	2	3	5	0	0	0	0
1	3	ONESEKE		0	0	0	2	3	5	0	0	0	1	2	3	5	0	0	0	0
1	3	RAVU	LANGO	1	1	2	2	3	5	11	12	23	4	13	15	28	4	12	13	25
1	3	RAVU	USIMANU	4	2	6	4	3	7	9	8	17	4	13	11	24	4	13	10	23
1	3	RAVU		5	3	8	6	6	12	20	20	40	8	26	26	52	8	25	23	48
1	3	TAKUIKA	TAKUIKA	0	0	0	0	0	0	1	3	4	2	1	3	4	2	1	3	4
1	3	TAKUIKA		0	0	0	0	0	0	1	3	4	2	1	3	4	2	1	3	4
1	3	TALOA	TALOA	0	0	0	5	9	14	0	0	0	2	5	9	14	0	0	0	0
1	3	TALOA		0	0	0	5	9	14	0	0	0	2	5	9	14	0	0	0	0
1	3	TIROVISI	TIROVISI	0	2	2	3	0	3	10	10	20	4	13	10	23	4	10	12	22
1	3	TIROVISI		0	2	2	3	0	3	10	10	20	4	13	10	23	4	10	12	22
1	3	VATUBAGEA	VATUBAGEA	0	0	0	0	0	0	1	0	1	1	1	0	1	1	1	0	1
1	3	VATUBAGEA		0	0	0	0	0	0	1	0	1	1	1	0	1	1	1	0	1
	3			8	9	17	43	31	74	139	131	270	59	182	162	344	55	147	140	287
1	4	MARASA	HANNEMOON	0	0	0	2	1	3	1	4	5	1	3	5	8	1	1	4	5
1	4	MARASA	KOHABUGA	3	6	9	2	1	3	13	18	31	5	15	19	34	5	16	24	40
1	4	MARASA	SAMARIA	0	1	1	2	0	2	3	4	7	1	5	4	9	1	3	5	8
1	4	MARASA	TAGAUMARE (TAHAMCURI)	0	0	0	0	1	1	5	3	8	1	5	4	9	1	5	3	8
1	4	MARASA	TAVELABANILONGA	0	0	0	0	0	0	1	1	2	1	1	1	2	1	1	1	2
1	4	MARASA	VERALAVUGA-VERAVAOLU	0	1	1	2	0	2	4	10	14	3	6	10	16	3	4	11	15
1	4	MARASA	VERATABAO	0	0	0	1	0	1	1	1	2	1	2	1	3	1	1	1	2
1	4	MARASA	VERAVAOLU-VERAVAOLU	0	0	0	1	0	1	5	6	11	1	6	6	12	1	5	6	11
1	4	MARASA		3	8	11	10	3	13	33	47	80	14	43	50	93	14	36	55	91
1	4	GULOVOA	CHARIMISA	0	0	0	2	0	2	12	15	27	5	14	15	29	5	12	15	27
1	4	GULOVOA		0	0	0	2	0	2	12	15	27	5	14	15	29	5	12	15	27
1	4	VATUGASI	VATUGASI	0	1	1	2	0	2	3	4	7	1	5	4	9	1	3	5	8
1	4	VATUGASI		0	1	1	2	0	2	3	4	7	1	5	4	9	1	3	5	8
1	4	CHACHOGA	CHACHOGA	0	0	0	4	0	4	4	3	7	2	8	3	11	2	4	3	7
1	4	CHACHOGA		0	0	0	4	0	4	4	3	7	2	8	3	11	2	4	3	7
1	4	TASALI	TASALI	0	0	0	1	1	2	3	6	9	2	4	7	11	2	3	6	9
1	4	TASALI		0	0	0	1	1	2	3	6	9	2	4	7	11	2	3	6	9
1	4	TOTOGOTA	TAPACHO	0	0	0	5	3	8	6	4	10	3	11	7	18	3	6	4	10
1	4	TOTOGOTA		0	0	0	5	3	8	6	4	10	3	11	7	18	3	6	4	10
1	4	KOLOGONA	KOLOGONA	2	0	2	11	1	12	24	21	45	8	35	22	57	8	26	21	47
1	4	KOLOGONA		2	0	2	11	1	12	24	21	45	8	35	22	57	8	26	21	47
	4			5	9	14	35	8	43	85	100	185	35	120	108	228	35	90	109	199
1	5	BABANAKIRA SCHOOL	STUDENTS DORMITORY	66	13	79	0	0	0	0	0	0	0	0	0	0	1	66	13	79
1	5	BABANAKIRA SCHOOL	TEACHERS HOUSE	2	4	6	0	0	0	0	0	0	0	0	0	0	1	2	4	6
1	5	BABANAKIRA SCHOOL	VERAHORISI	0	0	0	0	0	0	3	5	8	1	3	5	8	1	3	5	8
1	5	BABANAKIRA SCHOOL		68	17	85	0	0	0	3	5	8	1	3	5	8	3	71	22	93
1	5	HOBAHORO	HOBAHORO	0	0	0	7	4	11	8	17	25	5	15	21	36	5	8	17	25
1	5	HOBAHORO		0	0	0	7	4	11	8	17	25	5	15	21	36	5	8	17	25
1	5	IRUIRU	IRUIRU	0	0	0	0	2	2	2	4	6	1	2	6	8	1	2	4	6
1	5	IRUIRU		0	0	0	0	2	2	2	4	6	1	2	6	8	1	2	4	6
1	5	VELRU	HOPOMALA	0	0	0	1	2	3	11	9	20	4	12	11	23	4	11	9	20
1	5	VELRU	SILOLO	0	0	0	1	1	2	5	7	12	2	6	8	14	2	5	7	12

1972 GUADALCANAL WEATHER COAST CENSUS, DIVISION 1

DIV	EA	BIG NAME	SMALL NAME	VISITORS M	VISITORS F	VISITORS T	USUAL RES ABSENT M	USUAL RES ABSENT F	USUAL RES ABSENT T	USUAL RES PRESENT M	USUAL RES PRESENT F	USUAL RES PRESENT T	TOTAL DE JURE (QUES 6) H	TOTAL DE JURE (QUES 6) M	TOTAL DE JURE (QUES 6) F	TOTAL DE JURE (QUES 6) T	TOTAL DE FACTO (QUES 6) H	TOTAL DE FACTO (QUES 6) M	TOTAL DE FACTO (QUES 6) F	TOTAL DE FACTO (QUES 6) T
1	5	VEL'U	NGALIBERE	0	0	0	2	1	3	5	3	8	1	7	4	11	1	5	3	8
1	5	VELFL	PEONAMACHO	0	0	0	4	1	5	6	8	14	3	10	9	19	3	6	8	14
1	5	VFLFU	PURA	0	0	0	1	0	1	4	5	9	1	5	5	10	1	4	5	9
1	5	VELAL	NGALIKOLIA	1	0	1	6	3	9	6	13	19	5	12	16	28	5	7	13	20
1	5	VELFL	NGALISOTO	0	0	0	7	0	7	1	4	5	1	8	4	12	1	1	4	5
1	5	VFUFL		1	0	1	22	8	30	38	49	87	17	60	57	117	17	39	49	88
	5			69	17	86	29	14	43	51	75	126	24	80	89	169	26	120	92	212
1	6	GHAUVALISI	MATANABABA	5	0	5	2	0	2	12	8	20	5	14	8	22	5	17	8	25
1	6	GHAUVALISI	VERACHACHA	0	0	0	0	0	0	3	4	7	1	3	4	7	1	3	4	7
1	6	GHAUVALISI	VERALAVUGA	1	0	1	2	1	3	8	9	17	2	10	10	20	2	9	9	18
1	6	GHAUVALISI	PAVARAUNA	0	0	0	0	0	0	6	5	11	1	6	5	11	1	6	5	11
1	6	GHAUVALISI	VERAPOI	1	0	1	3	0	3	11	11	22	5	14	11	25	5	12	11	23
1	6	GHAUVALISI	VERALIGILIGI	2	2	4	0	0	0	2	6	8	1	2	6	8	1	4	8	12
1	6	GHAUVALISI	POIKUTCHA	1	0	1	2	0	2	12	13	25	5	14	13	27	5	13	13	26
1	6	GHAUVALISI	VERABOLI	0	0	0	2	1	3	3	1	4	1	5	2	7	1	3	1	4
1	6	GHAUVALISI		10	2	12	11	2	13	57	57	114	21	68	59	127	21	67	59	126
1	6	MAVUNIA	MAVUNIA	10	4	14	0	0	0	14	19	33	5	14	19	33	6	24	23	47
1	6	MAVUNIA		10	4	14	0	0	0	14	19	33	5	14	19	33	6	24	23	47
1	6	SALIARU	SALIARU	1	1	2	3	4	7	11	2	13	2	14	6	20	2	12	3	15
1	6	SALIARU		1	1	2	3	4	7	11	2	13	2	14	6	20	2	12	3	15
	6			21	7	28	14	6	20	82	78	160	28	96	84	180	29	103	85	188

1972 GUADALCANAL WEATHER COAST CENSUS,DIVISION 2

DIV	EA	BIG NAME	SMALL NAME	VISITORS M	F	T	USUAL RES ABSENT M	F	T	USUAL RES PRESENT M	F	T	TOTAL DE JURE (QUES 6) H	M	F	T	TOTAL DE FACTO (QUES 6) H	M	F	T
2	1	POISUGHU	CHARANAMATE	2	1	3	1	1	2	15	13	28	6	16	14	30	6	17	14	31
2	1	POISUGHU	CHARALAGE (ALSO VERATABAO	2	0	2	2	0	2	4	8	12	2	6	8	14	2	6	8	14
2	1	POISUGHU	VERAHOBA	0	0	0	0	0	0	2	2	4	1	2	2	4	1	2	2	4
2	1	POISUGHU	VERAKARU	0	2	2	0	1	1	7	6	13	4	7	7	14	4	7	8	15
2	1	POISUGHU	VERALEVUA	0	0	0	1	0	1	2	2	4	1	3	2	5	1	2	2	4
2	1	POISUGHU	VERALIGILIGI I	0	0	0	3	1	4	8	9	17	4	11	10	21	4	8	9	17
2	1	POISUGHU	VERALIGILIGI II	0	1	1	3	0	3	7	9	16	3	10	9	19	3	7	10	17
2	1	POISUGHU		4	4	8	10	3	13	45	49	94	21	55	52	107	21	49	53	102
2	1	BABANAKIRA VILLAGE	MATANKOLOBAU	0	0	0	1	0	1	3	3	6	1	4	3	7	1	3	3	6
2	1	BABANAKIRA VILLAGE		0	0	0	1	0	1	3	3	6	1	4	3	7	1	3	3	6
2	1	VATUKAPICHA SCHOOL	STUDENTS DORMITORY	19	7	26	0	0	0	0	0	0	0	0	0	0	1	19	7	26
2	1	VATUKAPICHA SCHOOL	TEACHERS' HOUSE	2	0	2	0	0	0	0	0	0	0	0	0	0	1	2	0	2
2	1	VATUKAPICHA SCHOOL		21	7	28	0	0	0	0	0	0	0	0	0	0	2	21	7	28
2	1	BARIKI	BARIKI	1	6	7	0	0	0	0	0	0	0	0	0	0	1	1	6	7
2	1	BARIKI	KOMOLEVUA	0	1	1	0	0	0	4	1	5	1	4	1	5	1	4	2	6
2	1	BARIKI	LILISIANA	5	3	8	1	1	2	8	12	20	5	9	13	22	6	13	15	28
2	1	BARIKI	SANISU	3	1	4	4	1	5	3	7	10	2	7	8	15	3	6	8	14
2	1	BARIKI		9	11	20	5	2	7	15	20	35	8	20	22	42	11	24	31	55
	1			34	22	56	16	5	21	63	72	135	30	79	77	156	35	97	94	191
2	2	SAVUNA	SAVUNA	0	0	0	3	1	4	7	7	14	4	10	8	18	4	7	7	14
2	2	SAVUNA		0	0	0	3	1	4	7	7	14	4	10	8	18	4	7	7	14
2	2	KOMATE	KOMATE	3	1	4	7	5	12	15	26	41	8	22	31	53	9	18	27	45
2	2	KOMATE		3	1	4	7	5	12	15	26	41	8	22	31	53	9	18	27	45
2	2	VERAVOLIA	CHIBAKOGE	0	0	0	1	0	1	7	5	12	2	8	5	13	2	7	5	12
2	2	VERAVOLIA	VERAVOLIA	0	0	0	3	1	4	6	6	12	3	9	7	16	3	6	6	12
2	2	VERAVOLIA		0	0	0	4	1	5	13	11	24	5	17	12	29	5	13	11	24
2	2	NGALITO	HINEPURE	0	1	1	1	0	1	3	5	8	1	4	5	9	1	3	6	9
2	2	NGALITO	NGALITO	0	0	0	5	3	8	18	17	35	7	23	20	43	6	18	17	35
2	2	NGALITO	PURAKECHU	0	0	0	0	1	1	2	1	3	1	2	2	4	1	2	1	3
2	2	NGALITO	VERABOLI	0	0	0	2	0	2	2	1	3	1	4	1	5	1	2	1	3
2	2	NGALITO		0	1	1	8	4	12	25	24	49	10	33	28	61	9	25	25	50
2	2	CHOCHO	CHOCHO	5	0	5	0	0	0	0	1	1	1	0	1	1	1	5	1	6
2	2	CHOCHO		5	0	5	0	0	0	0	1	1	1	0	1	1	1	5	1	6
	2			8	2	10	22	11	33	60	69	129	28	82	80	162	28	68	71	139
2	3	BITI	KORAGHA	0	1	1	4	6	10	8	7	15	4	12	13	25	3	8	8	16
2	3	BITI	TIUA	0	0	0	9	5	14	6	5	11	4	15	10	25	2	6	5	11
2	3	BITI	VERAKAERAGINIA	0	0	0	2	0	2	1	1	2	1	3	1	4	1	1	1	2
2	3	BITI	VERATAETAE	0	0	0	1	0	1	3	1	4	1	4	1	5	1	3	1	4
2	3	BITI		0	1	1	16	11	27	18	14	32	10	34	25	59	7	18	15	33
2	3	NGALIVOVO	NGALIVOVO	0	1	1	2	0	2	3	7	10	1	5	7	12	1	3	8	11
2	3	NGALIVOVO	TAMANU	0	1	1	1	0	1	3	3	6	1	4	3	7	1	3	4	7
2	3	NGALIVOVO		0	2	2	3	0	3	6	10	16	2	9	10	19	2	6	12	18
2	3	MATANASO	PECNAVORO	0	0	0	0	2	2	2	2	4	1	2	4	6	1	2	2	4
2	3	MATANASO	VALEPOBO	0	0	0	0	0	0	7	9	16	2	7	9	16	2	7	9	16
2	3	MATANASO	VERACHECHE	0	0	0	1	0	1	7	9	16	4	8	9	17	4	7	9	16
2	3	MATANASO		0	0	0	1	2	3	16	20	36	7	17	22	39	7	16	20	36.
2	3	CHAKUDALE	CHAKUDALE	0	1	1	1	0	1	2	3	5	1	3	3	6	1	2	4	6
2	3	CHAKUDALE	LAKATANA	0	0	0	1	0	1	1	6	7	1	2	6	8	1	1	6	7
2	3	CHAKUDALE	VERASEKO	0	0	0	6	1	7	2	1	3	2	8	2	10	1	2	1	3
2	3	CHAKUDALE		0	1	1	8	1	9	5	10	15	4	13	11	24	3	5	11	16

1972 GUADALCANAL WEATHER COAST CENSUS, DIVISION 2

DIV	EA	BIG NAME	SMALL NAME	VISITORS M	VISITORS F	VISITORS T	USUAL RES ABSENT M	USUAL RES ABSENT F	USUAL RES ABSENT T	USUAL RES PRESENT M	USUAL RES PRESENT F	USUAL RES PRESENT T	TOTAL DE JURE (QUES 6) H	TOTAL DE JURE (QUES 6) M	TOTAL DE JURE (QUES 6) F	TOTAL DE JURE (QUES 6) T	TOTAL DE FACTO (QUES 6) H	TOTAL DE FACTO (QUES 6) M	TOTAL DE FACTO (QUES 6) F	TOTAL DE FACTO (QUES 6) T
2	3	URAHAI	KOLOTAVULO	0	0	0	7	8	15	6	3	9	3	13	11	24	1	6	3	9
2	3	URAHAI	URAHAI	0	0	0	0	0	0	1	5	6	1	1	5	6	1	1	5	6
2	3	URAHAI	VASAVOLAVOLA	0	0	0	7	1	8	12	12	24	4	19	13	32	4	12	12	24
2	3	URAHAI		0	0	0	14	9	23	19	20	39	8	33	29	62	6	19	20	39
	3			0	4	4	42	23	65	64	74	138	31	106	97	203	25	64	78	142
2	4	TOGHUNAOVO	MABELAU	0	0	0	0	0	0	9	7	16	2	9	7	16	2	9	7	16
2	4	TOGHUVAOVO	TOGHUVAOVO	0	1	1	3	2	5	8	8	16	4	11	10	21	3	8	9	17
2	4	TOGHUNAOVO	VATUMALAODU	0	0	0	5	2	7	0	0	0	1	5	2	7	0	0	0	0
2	4	TOGHUNAOVO		0	1	1	8	4	12	17	15	32	7	25	19	44	5	17	16	33
2	4	GHORABAU	BOKO	0	0	0	4	1	5	3	5	8	2	7	6	13	2	3	5	8
2	4	GHORABAU	GHORABAU	0	0	0	3	2	5	5	2	7	3	8	4	12	3	5	2	7
2	4	GHORABAU	LEALONGA	0	1	1	3	3	6	6	16	22	6	9	19	28	6	6	17	23
2	4	GHORABAU	MANGGARI	0	0	0	0	0	0	5	3	8	2	5	3	8	2	5	3	8
2	4	GHORABAU	VERABINA	0	0	0	7	8	15	6	12	18	6	13	20	33	5	6	12	18
2	4	GHORABAU		0	1	1	17	14	31	25	38	63	19	42	52	94	18	25	39	64
2	4	PITE	TSUISU	0	0	0	4	0	4	10	12	22	4	14	12	26	4	10	12	22
2	4	PITE	NGALIMAREMARE	0	0	0	2	0	2	3	2	5	1	5	2	7	1	3	2	5
2	4	PITE	VALEBORA	0	0	0	3	0	3	3	9	12	3	6	9	15	3	3	9	12
2	4	PITE		0	0	0	9	0	9	16	23	39	8	25	23	48	8	16	23	39
2	4	VATULOKI	VATULOKI	1	0	1	10	6	16	14	14	28	8	24	20	44	8	15	14	29
2	4	VATULOKI		1	0	1	10	6	16	14	14	28	8	24	20	44	8	15	14	29
2	4	LELECA	LELECA	0	2	2	0	0	0	0	0	0	0	0	0	0	1	0	2	2
2	4	LELECA		0	2	2	0	0	0	0	0	0	0	0	0	0	1	0	2	2
	4			1	4	5	44	24	68	72	90	162	42	116	114	230	40	73	94	167
2	5	DUIDUI	DUIDUI	0	2	2	15	5	20	32	24	56	13	47	29	76	12	32	26	58
2	5	DUIDUI	ISUNA	0	0	0	2	1	3	11	13	24	4	13	14	27	4	11	13	24
2	5	DUIDUI	NGALILAPINA	0	0	0	7	9	16	18	22	40	9	25	31	56	9	18	22	40
2	5	DUIDUI	VERATITA	0	0	0	0	1	1	8	2	10	1	8	3	11	1	8	2	10
2	5	DUIDUI	VUNUSA	0	0	0	21	2	23	31	40	71	17	52	42	94	16	31	40	71
2	5	DUIDUI		0	2	2	45	18	63	100	101	201	44	145	119	264	42	100	103	203
	5			0	2	2	45	18	63	100	101	201	44	145	119	264	42	100	103	203
2	6	KOLINA	CHIVICHIVI	0	0	0	2	0	2	8	4	12	2	10	4	14	2	8	4	12
2	6	KOLINA	KOLINA	3	0	3	8	0	8	44	50	94	16	52	50	102	17	47	50	97
2	6	KOLINA	KOLOCHIRI	1	0	1	0	0	0	1	1	2	1	1	1	2	1	2	1	3
2	6	KOLINA	NGALILABELABE	0	0	0	3	0	3	13	13	26	4	16	13	29	4	13	13	26
2	6	KOLINA	RAUMASORI	0	0	0	14	0	14	18	23	41	9	32	23	55	9	18	23	41
2	6	KOLINA		4	0	4	27	0	27	84	91	175	32	111	91	202	33	88	91	179
2	6	NGALIGONU	NGALIGONU (ALSO TABALA)	0	0	0	11	5	16	12	10	22	8	23	15	38	7	12	10	22
2	6	NGALIGONU		0	0	0	11	5	16	12	10	22	8	23	15	38	7	12	10	22
	6			4	0	4	38	5	43	96	101	197	40	134	106	240	40	100	101	201
2	7	VISO	HAIMARAO	0	0	0	3	0	3	5	4	9	2	8	4	12	2	5	4	9
2	7	VISO	INAGONO	0	0	0	4	0	4	9	10	19	3	13	10	23	3	9	10	19
2	7	VISO	KAKAVOVO	0	0	0	1	0	1	5	3	8	2	6	3	9	2	5	3	8
2	7	VISO	NGALIAMATE	0	0	0	1	0	1	21	17	38	8	22	17	39	8	21	17	38
2	7	VISO	NGALIKAKAUVA VILLAGE	0	0	0	1	1	2	1	2	3	1	2	3	5	1	1	2	3
2	7	VISO	NGALIVIVINUA	0	1	1	1	0	1	5	10	15	3	6	10	16	3	5	11	16
2	7	VISO	TANAKEA	0	0	0	3	0	3	7	11	18	3	10	11	21	3	7	11	18
2	7	VISO	TIGERE	0	0	0	6	2	8	21	19	40	8	27	21	48	7	21	19	40
2	7	VISO	VERALIGIA	0	0	0	0	0	0	6	7	13	2	6	7	13	2	6	7	13
2	7	VISO	VISO SCHOOL/TEACHERS HOUS	0	3	3	0	0	0	0	0	0	0	0	0	0	1	0	3	3
2	7	VISO	VISO SCHOOL/DORMITORY	4	5	9	0	0	0	1	1	2	1	1	1	2	1	5	6	11

1972 GUADALCANAL WEATHER COAST CENSUS, DIVISION 2

DIV	EA	BIG NAME	SMALL NAME	VISITORS M	VISITORS F	VISITORS T	USUAL RES ABSENT M	USUAL RES ABSENT F	USUAL RES ABSENT T	USUAL RES PRESENT M	USUAL RES PRESENT F	USUAL RES PRESENT T	TOTAL DE JURE (QUES 6) H	TOTAL DE JURE (QUES 6) M	TOTAL DE JURE (QUES 6) F	TOTAL DE JURE (QUES 6) T	TOTAL DE FACTO (QUES 6) H	TOTAL DE FACTO (QUES 6) M	TOTAL DE FACTO (QUES 6) F	TOTAL DE FACTO (QUES 6) T
2	7	VISO		4	9	13	20	3	23	81	84	165	33	101	87	188	33	85	93	178
2	7	KO'O	BABANAKAOKAO	0	0	0	2	2	4	16	12	28	4	18	14	32	4	16	12	28
2	7	KO'O	KOLOKUDUKUDU	0	0	0	3	0	3	11	10	21	4	14	10	24	4	11	10	21
2	7	KO'O	VERAGOANA	0	0	0	3	2	5	8	11	19	5	11	13	24	5	8	11	19
2	7	KO'O	VERALILIGI	0	0	0	1	0	1	4	4	8	1	5	4	9	1	4	4	8
2	7	KO'O		0	0	0	9	4	13	39	37	76	14	48	41	89	14	39	37	76
	7			4	9	13	29	7	36	120	121	241	47	149	128	277	47	124	130	254
2	8	KOLOCHACHARA	BOLTABU	0	0	0	1	0	1	7	3	10	2	8	3	11	2	7	3	10
2	8	KOLOCHACHARA	KOLOCHACHARA	0	0	0	6	6	12	20	15	35	9	26	21	47	8	20	15	35
2	8	KOLOCHACHARA	PEOCHAKURI	1	0	1	12	18	30	13	15	28	13	25	33	58	8	14	15	29
2	8	KOLOCHACHARA		1	0	1	19	24	43	40	33	73	24	59	57	116	18	41	33	74
2	8	INAKONA	BAUCHOA	0	0	0	0	0	0	6	4	10	2	6	4	10	2	6	4	10
2	8	INAKONA	INAKONA	0	0	0	5	2	7	27	22	49	11	32	24	56	9	27	22	49
2	8	INAKONA	TANABURA	0	0	0	12	5	17	1	3	4	6	13	8	21	2	1	3	4
2	8	INAKONA	VALESABAGA	0	0	0	1	1	2	21	14	35	6	22	15	37	5	21	14	35
2	8	INAKONA		0	0	0	18	8	26	55	43	98	25	73	51	124	18	55	43	98
	8			1	0	1	37	32	69	95	76	171	49	132	108	240	36	96	76	172

1972 GUADALCANAL WEATHER COAST CENSUS, DIVISION 3

DIV	EA	BIG NAME	SMALL NAME	VISITORS M	VISITORS F	VISITORS T	USUAL RES ABSENT M	USUAL RES ABSENT F	USUAL RES ABSENT T	USUAL RES PRESENT M	USUAL RES PRESENT F	USUAL RES PRESENT T	TOTAL DE JURE (QUES 6) H	TOTAL DE JURE (QUES 6) M	TOTAL DE JURE (QUES 6) F	TOTAL DE JURE (QUES 6) T	TOTAL DE FACTO (QUES 6) H	TOTAL DE FACTO (QUES 6) M	TOTAL DE FACTO (QUES 6) F	TOTAL DE FACTO (QUES 6) T
3	1	KOLCANIU	KOLCANIU	0	0	0	6	7	13	10	15	25	7	16	22	38	7	10	15	25
3	1	KOLCANIU		0	0	0	6	7	13	10	15	25	7	16	22	38	7	10	15	25
3	1	VERAGHOANA	VERAGHOANA	1	0	1	4	2	6	12	15	27	4	16	17	33	4	13	15	28
3	1	VERAGHOANA		1	0	1	4	2	6	12	15	27	4	16	17	33	4	13	15	28
3	1	VALEVURU	VALEVURU	1	4	5	12	4	16	26	24	50	10	38	28	66	11	27	28	55
3	1	VALEVURU		1	4	5	12	4	16	26	24	50	10	38	28	66	11	27	28	55
3	1	VALEAFANISI	VALEAFANISI	0	1	1	11	8	19	37	32	69	17	48	40	88	16	37	33	70
3	1	VALEAFANISI		0	1	1	11	8	19	37	32	69	17	48	40	88	16	37	33	70
3	1	CHIKORA	CHIKORA	9	0	9	0	0	0	1	0	1	1	1	0	1	2	10	0	10
3	1	CHIKORA		9	0	9	0	0	0	1	0	1	1	1	0	1	2	10	0	10
3	1	NGALITURARA	NGALITURARA	0	0	0	16	6	22	18	31	49	15	34	37	71	14	18	31	49
3	1	NGALITURARA	INATITA	0	0	0	1	0	1	2	4	6	1	3	4	7	1	2	4	6
3	1	NGALITURARA		0	0	0	17	6	23	20	35	55	16	37	41	78	15	20	35	55
3	1	CHALIBALE	CHALIBALE	0	1	1	1	0	1	6	9	15	3	7	9	16	3	6	10	16
3	1	CHALIBALE		0	1	1	1	0	1	6	9	15	3	7	9	16	3	6	10	16
	1			11	6	17	51	27	78	112	130	242	58	163	157	320	58	123	136	259
3	2	AONA	AONA	0	2	2	4	4	8	4	11	15	3	8	15	23	3	4	13	17
3	2	AONA	VERAVOLIA	0	0	0	4	4	8	2	2	4	2	6	6	12	1	2	2	4
3	2	AONA		0	2	2	8	8	16	6	13	19	5	14	21	35	4	6	15	21
3	2	BOKO	TABUTAMANA	0	0	0	1	0	1	2	2	4	1	3	2	5	1	2	2	4
3	2	BOKO	BOKO	2	5	7	7	0	7	8	13	21	3	15	13	28	3	10	18	28
3	2	BOKO		2	5	7	8	0	8	10	15	25	4	18	15	33	4	12	20	32
3	2	BUA BUA	BUA BUA	0	0	0	0	0	0	5	2	7	1	5	2	7	1	5	2	7
3	2	BUA BUA		0	0	0	0	0	0	5	2	7	1	5	2	7	1	5	2	7
3	2	NASIFA	NASIFA	0	0	0	0	0	0	3	1	4	1	3	1	4	1	3	1	4
3	2	NASIFA		0	0	0	0	0	0	3	1	4	1	3	1	4	1	3	1	4
3	2	GHOROGHAVUTU	PEROA	0	0	0	3	0	3	9	9	18	4	12	9	21	4	9	9	18
3	2	GHOROGHAVUTU	VERAMAREGHA	0	0	0	1	0	1	9	13	22	4	10	13	23	4	9	13	22
3	2	GHOROGHAVUTU	VERAGAGHALO	0	0	0	2	0	2	3	11	14	4	5	11	16	4	3	11	14
3	2	GHOROGHAVUTU	KOEROU	0	0	0	1	0	1	3	3	6	2	4	3	7	2	3	3	6
3	2	GHOROGHAVUTU		0	0	0	7	0	7	24	36	60	14	31	36	67	14	24	36	60
3	2	SIVULA	VERASINO	0	0	0	3	0	3	8	7	15	3	11	7	18	3	8	7	15
3	2	SIVULA	SIVULA	0	0	0	3	1	4	14	21	35	8	17	22	39	8	14	21	35
3	2	SIVULA		0	0	0	6	1	7	22	28	50	11	28	29	57	11	22	28	50
3	2	HALIATU	NGALIGERE	0	0	0	2	2	4	2	2	4	2	4	4	8	1	2	2	4
3	2	HALIATU	LUMAGODO	0	0	0	0	0	0	2	2	4	1	2	2	4	1	2	2	4
3	2	HALIATU	LUMAVEURU	0	0	0	0	0	0	3	4	7	2	3	4	7	2	3	4	7
3	2	HALIATU	VALEGHACHOGHA	0	0	0	1	1	2	1	2	3	1	2	3	5	1	1	2	3
3	2	HALIATU		0	0	0	3	3	6	8	10	18	6	11	13	24	5	8	10	18
3	2	NGALIAPAU	NGALIAPAU	0	0	0	3	1	4	9	9	18	4	12	10	22	4	9	9	18
3	2	NGALIAPAU		0	0	0	3	1	4	9	9	18	4	12	10	22	4	9	9	18
3	2	LABI	LABI	0	0	0	0	0	0	4	2	6	2	4	2	6	2	4	2	6
3	2	LABI		0	0	0	0	0	0	4	2	6	2	4	2	6	2	4	2	6
3	2	SINAMO	SINAMO	0	0	0	1	0	1	3	4	7	2	4	4	8	2	3	4	7
3	2	SINAMO	LUMATOGHU	0	0	0	1	0	1	2	6	8	2	3	6	9	2	2	6	8
3	2	SINAMO	VERAMATAGO	0	0	0	1	0	1	2	4	6	1	3	4	7	1	2	4	6
3	2	SINAMO		0	0	0	3	0	3	7	14	21	5	10	14	24	5	7	14	21
3	2	ISUISU	ISUISU	0	0	0	1	0	1	4	3	7	1	5	3	8	1	4	3	7
3	2	ISUISU		0	0	0	1	0	1	4	3	7	1	5	3	8	1	4	3	7
3	2	KUMA	NGALIVANGALAU	0	0	0	2	0	2	1	4	5	1	3	4	7	1	1	4	5

1972 GUADALCANAL WEATHER COAST CENSUS,DIVISION 3

DIV	EA	BIG NAME	SMALL NAME	VISITORS M	F	T	USUAL RES ABSENT M	F	T	USUAL RES PRESENT M	F	T	TOTAL DE JURE (QUES 6) H	M	F	T	TOTAL DE FACTO (QUES 6) H	M	F	T
3	2	KUMA	SESERE	0	0	0	1	1	2	8	5	13	4	9	6	15	4	8	5	13
3	2	KUMA	VEFAVAOLU	0	0	0	2	0	2	6	5	11	2	8	5	13	2	6	5	11
3	2	KUMA	NGALILAKA	0	0	0	0	0	0	9	7	16	3	9	7	16	3	9	7	16
3	2	KUMA	KOLOVOSU	0	0	0	1	1	2	8	6	14	4	9	7	16	4	8	6	14
3	2	KUMA	VAVALISI	0	0	0	2	0	2	2	6	8	3	4	6	10	3	2	6	8
3	2	KUMA	NGALIMARUMU	0	0	0	1	0	1	9	3	12	2	10	3	13	2	9	3	12
3	2	KUMA	NGALIKUSI	0	0	0	1	0	1	5	5	10	3	6	5	11	3	5	5	10
3	2	KUMA	LEGALAU	0	0	0	1	2	3	9	7	16	3	10	9	19	3	9	7	16
3	2	KUMA	NAOVO	0	1	1	0	0	0	14	5	19	3	14	5	19	3	14	6	20
3	2	KUMA		0	1	1	11	4	15	71	53	124	28	82	57	139	28	71	54	125
	2			2	8	10	50	17	67	173	186	359	82	223	203	426	80	175	194	369
3	3	MALAGHETI	LUMAMOLE	0	0	0	2	2	4	2	2	4	1	4	4	8	1	2	2	4
3	3	MALAGHETI	LUMANAKUDO	0	0	0	1	0	1	2	4	6	1	3	4	7	1	2	4	6
3	3	MALAGHETI	KAKAU	0	0	0	0	0	0	2	1	3	1	2	1	3	1	2	1	3
3	3	MALAGHETI	NGALIPALAPALA	0	0	0	1	0	1	8	4	12	2	9	4	13	2	8	4	12
3	3	MALAGHETI	NAVUTU	0	0	0	3	0	3	3	8	11	1	6	8	14	1	3	8	11
3	3	MALAGHETI	SULU	0	0	0	2	0	2	8	5	13	2	10	5	15	2	8	5	13
3	3	MALAGHETI	NGALIKORE	0	0	0	2	1	3	5	4	9	2	7	5	12	2	5	4	9
3	3	MALAGHETI	LANGOPUPU	0	0	0	2	0	2	15	13	28	5	17	13	30	5	15	13	28
3	3	MALAGHETI	RAULONGA	0	0	0	1	2	3	1	1	2	1	2	3	5	1	1	1	2
3	3	MALAGHETI		0	0	0	14	5	19	46	42	88	16	60	47	107	16	46	42	88
3	3	KOLOKIKI	KOLOKIKIVAVA	0	0	0	1	0	1	4	7	11	2	5	7	12	2	4	7	11
3	3	KOLOKIKI	NGALIVATU	0	0	0	1	0	1	9	10	19	4	10	10	20	4	9	10	19
3	3	KOLOKIKI	VATULILI	0	0	0	4	1	5	6	9	15	3	10	10	20	3	6	9	15
3	3	KOLOKIKI	KOLOKIKIATA	0	0	0	1	2	3	9	9	18	4	10	11	21	4	9	9	18
3	3	KOLOKIKI		0	0	0	7	3	10	28	35	63	13	35	38	73	13	28	35	63
	3			0	0	0	21	8	29	74	77	151	29	95	85	180	29	74	77	151
3	4	VATUMANIVO	KOMUCHOKO	0	0	0	0	1	1	7	2	9	2	7	3	10	2	7	2	9
3	4	VATUMANIVO	KUKULIAKOLO	0	0	0	4	0	4	5	12	17	2	9	12	21	2	5	12	17
3	4	VATUMANIVO	NGALITATASI	0	0	0	1	1	2	4	6	10	1	5	7	12	1	4	6	10
3	4	VATUMANIVO	NGALIBOBOKLA	0	0	0	2	1	3	3	5	8	2	5	6	11	2	3	5	8
3	4	VATUMANIVO	ULINIVAKA	0	0	0	2	0	2	3	2	5	2	5	2	7	2	3	2	5
3	4	VATUMANIVO	BAKEGHEDE	0	0	0	2	1	3	1	2	3	1	3	3	6	1	1	2	3
3	4	VATUMANIVO		0	0	0	11	4	15	23	29	52	10	34	33	67	10	23	29	52
3	4	NGAKALA	VERANAVISA	0	0	0	0	0	0	7	4	11	1	7	4	11	1	7	4	11
3	4	NGAKALA	NGAKONA	0	0	0	1	0	1	4	4	8	2	5	4	9	2	4	4	8
3	4	NGAKALA		0	0	0	1	0	1	11	8	19	3	12	8	20	3	11	8	19
3	4	VATUKULAU	VATUKULAU	2	0	2	7	1	8	8	12	20	5	15	13	28	5	10	12	22
3	4	VATUKULAU		2	0	2	7	1	8	8	12	20	5	15	13	28	5	10	12	22
3	4	NGALIPAPA	NGALIPAPA	0	0	0	7	7	14	8	19	27	5	15	26	41	4	8	19	27
3	4	NGALIPAPA		0	0	0	7	7	14	8	19	27	5	15	26	41	4	8	19	27
3	4	RAFAVU	NGALIVATU	0	0	0	2	0	2	2	5	7	2	4	5	9	2	2	5	7
3	4	RAFAVU	RAFAVU LALO	0	0	0	1	1	2	3	6	9	2	4	7	11	2	3	6	9
3	4	RAFAVU	NGABULA	0	0	0	7	4	11	10	15	25	4	17	19	36	4	10	15	25
3	4	RAFAVU	NGALILEGALEGA	0	0	0	2	2	4	12	17	29	4	14	19	33	4	12	17	29
3	4	RAFAVU	RAFAVU TOGU	0	0	0	6	1	7	34	32	66	10	40	33	73	10	34	32	66
3	4	RAFAVU		0	0	0	18	8	26	61	75	136	22	79	83	162	22	61	75	136
3	4	CHOCHO	CHOCHO	0	0	0	2	1	3	3	3	6	1	5	4	9	1	3	3	6
3	4	CHOCHO		0	0	0	2	1	3	3	3	6	1	5	4	9	1	3	3	6
	4			2	0	2	46	21	67	114	146	260	46	160	167	327	45	116	146	262
3	5	KOLOGHALIVEI	KOLOGHALIVEI	0	0	0	1	0	1	9	12	21	3	10	12	22	3	9	12	21

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1972 GUADALCANAL WEATHER COAST CENSUS, DIVISION 3

DIV	EA	BIG NAME	SMALL NAME	VISITORS M	VISITORS F	VISITORS T	USUAL RES ABSENT M	USUAL RES ABSENT F	USUAL RES ABSENT T	USUAL RES PRESENT M	USUAL RES PRESENT F	USUAL RES PRESENT T	TOTAL DE JURE (QUES 6) H	TOTAL DE JURE (QUES 6) M	TOTAL DE JURE (QUES 6) F	TOTAL DE JURE (QUES 6) T	TOTAL DE FACTO (QUES 6) H	TOTAL DE FACTO (QUES 6) M	TOTAL DE FACTO (QUES 6) F	TOTAL DE FACTO (QUES 6) T
3	5	KOLOGHALIVEI		0	0	0	1	0	1	9	12	21	3	10	12	22	3	9	12	21
3	5	KUMA	ALAVISI	0	0	0	0	0	0	6	9	15	2	6	9	15	2	6	9	15
3	5	KUMA	ULUAGURU	0	0	0	5	0	5	21	21	42	7	26	21	47	7	21	21	42
3	5	KUMA	KOMUNABOKA	1	0	1	1	1	2	9	12	21	4	10	13	23	4	10	12	22
3	5	KUMA		1	0	1	6	1	7	36	42	78	13	42	43	85	13	37	42	79
3	5	MARAC	MARAC	0	0	0	2	1	3	10	14	24	6	12	15	27	6	10	14	24
3	5	MARAC	CHORABUTO	0	0	0	0	0	0	2	4	6	1	2	4	6	1	2	4	6
3	5	MARAC		0	0	0	2	1	3	12	18	30	7	14	19	33	7	12	18	30
3	5	INAKUA	VALETURATURA	0	0	0	1	0	1	5	2	7	2	6	2	8	2	5	2	7
3	5	INAKUA	INAKUA	0	0	0	2	1	3	12	11	23	6	14	12	26	6	12	11	23
3	5	INAKUA		0	0	0	3	1	4	17	13	30	8	20	14	34	8	17	13	30
3	5	BULOSARO	BULOSARO	0	0	0	2	0	2	10	9	19	3	12	9	21	3	10	9	19
3	5	BULOSARO		0	0	0	2	0	2	10	9	19	3	12	9	21	3	10	9	19
3	5	NGALIMAUVO	NGALIMAUVO	0	0	0	0	0	0	3	3	6	1	3	3	6	1	3	3	6
3	5	NGALIMAUVO		0	0	0	0	0	0	3	3	6	1	3	3	6	1	3	3	6
3	5	KOLOBOLO	KOLOBOLO	0	0	0	2	0	2	8	10	18	5	10	10	20	5	8	10	18
3	5	KOLOBOLO		0	0	0	2	0	2	8	10	18	5	10	10	20	5	8	10	18
3	5	SUGHULONGA	MABOKO	1	0	1	8	2	10	10	12	22	8	18	14	32	8	11	12	23
3	5	SUGHULONGA		1	0	1	8	2	10	10	12	22	8	18	14	32	8	11	12	23
3	5	PURA PURA	PURA PURA	0	0	0	3	1	4	8	11	19	5	11	12	23	5	8	11	19
3	5	PURA PURA		0	0	0	3	1	4	8	11	19	5	11	12	23	5	8	11	19
	5			2	0	2	27	6	33	113	130	243	53	140	136	276	53	115	130	245

1972 GUADALCANAL WEATHER COAST CENSUS,DIVISION 4

DIV	EA	BIG NAME	SMALL NAME	VISITORS M	F	T	USUAL RES ABSENT M	F	T	USUAL RES PRESENT M	F	T	TOTAL DE JURE (QUES 6) H	M	F	T	TOTAL DE FACTO (QUES 6) H	M	F	T
4	1	KOLOGHASI	LEVUKA	0	0	0	0	0	0	6	8	14	3	6	8	14	3	6	8	14
4	1	KOLOGHASI		0	0	0	0	0	0	6	8	14	3	6	8	14	3	6	8	14
4	1	AREATA	CHOGIRI	0	0	0	1	1	2	25	25	50	11	26	26	52	11	25	25	50
4	1	AREATA	NGALITUBELA	0	0	0	1	0	1	7	5	12	3	8	5	13	3	7	5	12
4	1	AREATA	VALEBOGHOBOGHO	0	0	0	0	0	0	1	2	3	1	1	2	3	1	1	2	3
4	1	AREATA	VERAMOGHO	1	3	4	4	2	6	8	11	19	9	12	13	25	8	9	14	23
4	1	AREATA	SOHAGULU	0	0	0	10	4	14	16	11	27	7	26	15	41	6	16	11	27
4	1	AREATA	MANIVASA	2	5	7	4	3	7	6	4	10	3	10	7	17	3	8	9	17
4	1	AREATA		3	8	11	20	10	30	63	58	121	34	83	68	151	32	66	66	132
	1			3	8	11	20	10	30	69	66	135	37	89	76	165	35	72	74	146
4	2	MAKAGERE	KALAVAOLU	0	0	0	0	0	0	4	4	8	2	4	4	8	2	4	4	8
4	2	MAKAGERE	GHOROGHORO	0	0	0	1	0	1	1	4	5	3	2	4	6	3	1	4	5
4	2	MAKAGERE	NGUTU	0	0	0	8	8	16	3	2	5	5	11	10	21	1	3	2	5
4	2	MAKAGERE	VALEGILAVAOLU	0	0	0	0	0	0	5	1	6	1	5	1	6	1	5	1	6
4	2	MAKAGERE		0	0	0	9	8	17	13	11	24	11	22	19	41	7	13	11	24
4	2	KOMU	KONGOMOLI	0	0	0	0	0	0	5	6	11	1	5	6	11	1	5	6	11
4	2	KOMU		0	0	0	0	0	0	5	6	11	1	5	6	11	1	5	6	11
4	2	RIVA	KOLOKAKAU	4	11	15	4	1	5	10	10	20	4	14	11	25	4	14	21	35
4	2	RIVA	GILAVALU	0	0	0	12	9	21	16	15	31	9	28	24	52	8	16	15	31
4	2	RIVA		4	11	15	16	10	26	26	25	51	13	42	35	77	12	30	36	66
	2			4	11	15	25	18	43	44	42	86	25	69	60	129	20	48	53	101
4	3	LULSUGHU	KOLOKOLOKIKI	0	0	0	1	1	2	8	12	20	3	9	13	22	3	8	12	20
4	3	LULSUGHU		0	0	0	1	1	2	8	12	20	3	9	13	22	3	8	12	20
4	3	VATALENA	NGALITAGHAVERONA	1	3	4	22	16	38	21	18	39	14	43	34	77	8	22	21	43
4	3	VATALENA	VERACHELU	0	0	0	4	5	9	3	3	6	2	7	8	15	2	3	3	6
4	3	VATALENA	KERAVATU	0	0	0	5	10	15	6	4	10	4	11	14	25	1	6	4	10
4	3	VATALENA		1	3	4	31	31	62	30	25	55	20	61	56	117	11	31	28	59
4	3	ALITAUVA	ALITAUVA	0	0	0	3	6	9	1	0	1	3	4	6	10	1	1	0	1
4	3	ALITAUVA		0	0	0	3	6	9	1	0	1	3	4	6	10	1	1	0	1
4	3	NGALIBALEHO	VATUPONO	0	0	0	0	0	0	7	6	13	1	7	6	13	1	7	6	13
4	3	NGALIBALEHO		0	0	0	0	0	0	7	6	13	1	7	6	13	1	7	6	13
4	3	MANDAKACHO	VERAMAREGHA	0	0	0	0	0	0	8	10	18	3	8	10	18	3	8	10	18
4	3	MANDAKACHO	VATAKOVE	0	0	0	2	0	2	11	6	17	3	13	6	19	3	11	6	17
4	3	MANDAKACHO	VATUKAPICHA	0	0	0	3	0	3	11	16	27	5	14	16	30	5	11	16	27
4	3	MANDAKACHO		0	0	0	5	0	5	30	32	62	11	35	32	67	11	30	32	62
4	3	CHARIDOLE	CHARIDOLE	0	0	0	0	0	0	4	1	5	1	4	1	5	1	4	1	5
4	3	CHARIDOLE		0	0	0	0	0	0	4	1	5	1	4	1	5	1	4	1	5
4	3	PUKANGALI	PUKANGALI	0	0	0	0	0	0	2	3	5	1	2	3	5	1	2	3	5
4	3	PUKANGALI		0	0	0	0	0	0	2	3	5	1	2	3	5	1	2	3	5
4	3	LALOATO	LASIMATE	0	0	0	1	0	1	5	4	9	2	6	4	10	2	5	4	9
4	3	LALOATO	LALOATO	0	1	1	0	1	1	4	5	9	1	4	6	10	1	4	6	10
4	3	LALOATO		0	1	1	1	1	2	9	9	18	3	10	10	20	3	9	10	19
	3			1	4	5	41	39	80	91	88	179	43	132	127	259	32	92	92	184
4	4	NADOA	NADOA	0	0	0	1	0	1	7	12	19	4	8	12	20	4	7	12	19
4	4	NADOA		0	0	0	1	0	1	7	12	19	4	8	12	20	4	7	12	19
4	4	NADORE	NADORE	0	1	1	0	0	0	3	1	4	1	3	1	4	1	3	2	5
4	4	NADORE		0	1	1	0	0	0	3	1	4	1	3	1	4	1	3	2	5
4	4	LEVU	ALIDAVA	0	0	0	3	2	5	30	17	47	11	33	19	52	11	30	17	47
4	4	LEVU		0	0	0	3	2	5	30	17	47	11	33	19	52	11	30	17	47
4	4	BACHERAU	NGALIVUSUVUSU	0	0	0	6	5	11	12	7	19	5	18	12	30	5	12	7	19

1972 GUADALCANAL WEATHER COAST CENSUS, DIVISION 4

DIV	EA	BIG NAME	SMALL NAME	VISITORS M	VISITORS F	VISITORS T	USUAL RES ABSENT M	USUAL RES ABSENT F	USUAL RES ABSENT T	USUAL RES PRESENT M	USUAL RES PRESENT F	USUAL RES PRESENT T	TOTAL DE JURE (QUES 6) H	TOTAL DE JURE (QUES 6) M	TOTAL DE JURE (QUES 6) F	TOTAL DE JURE (QUES 6) T	TOTAL DE FACTO (QUES 6) H	TOTAL DE FACTO (QUES 6) M	TOTAL DE FACTO (QUES 6) F	TOTAL DE FACTO (QUES 6) T
4	4	BAGHERAU		0	0	0	6	5	11	12	7	19	5	18	12	30	5	12	7	19
4	4	PAPALATI	PAPALATI	0	0	0	0	0	0	4	2	6	1	4	2	6	1	4	2	6
4	4	PAPALATI		0	0	0	0	0	0	4	2	6	1	4	2	6	1	4	2	6
4	4	TATABA	TATABA	0	0	0	0	0	0	3	1	4	1	3	1	4	1	3	1	4
4	4	TATABA		0	0	0	0	0	0	3	1	4	1	3	1	4	1	3	1	4
4	4	NAHONANGICHU	GICHU	0	0	0	2	1	3	8	9	17	5	10	10	20	5	8	9	17
4	4	NAHONANGICHU		0	0	0	2	1	3	8	9	17	5	10	10	20	5	8	9	17
4	4	CHARIVOGHAGHA	CHARIVOGHAGHA	0	0	0	0	0	0	3	1	4	1	3	1	4	1	3	1	4
4	4	CHARIVOGHAGHA		0	0	0	0	0	0	3	1	4	1	3	1	4	1	3	1	4
4	4	VERAGHALEA	MAKANACHILI	0	0	0	1	1	2	16	23	39	9	17	24	41	9	16	23	39
4	4	VERAGHALEA		0	0	0	1	1	2	16	23	39	9	17	24	41	9	16	23	39
	4			0	1	1	13	9	22	86	73	159	38	99	82	181	38	86	74	160
4	5	SUGHU	SUGHU	0	0	0	2	0	2	24	20	44	10	26	20	46	10	24	20	44
4	5	SUGHU		0	0	0	2	0	2	24	20	44	10	26	20	46	10	24	20	44
4	5	LOGUNA	LOGUNA	0	0	0	0	0	0	6	4	10	3	6	4	10	3	6	4	10
4	5	LOGUNA		0	0	0	0	0	0	6	4	10	3	6	4	10	3	6	4	10
4	5	MALAISU	CHARAVUTU	0	0	0	6	3	9	30	28	58	11	36	31	67	10	30	28	58
4	5	MALAISU	VERALENGA	0	0	0	0	0	0	1	3	4	1	1	3	4	1	1	3	4
4	5	MALAISU		0	0	0	6	3	9	31	31	62	12	37	34	71	11	31	31	62
4	5	RAUREBC	ALE ALE	0	0	0	0	1	1	10	8	18	5	10	9	19	5	10	8	18
4	5	RAUREBC	TABAKOLO	0	0	0	1	0	1	7	3	10	2	8	3	11	2	7	3	10
4	5	RAUREBC		0	0	0	1	1	2	17	11	28	7	18	12	30	7	17	11	28
	5			0	0	0	9	4	13	78	66	144	32	87	70	157	31	78	66	144

1972 GUADALCANAL WEATHER COAST CENSUS, DIVISION 5

DIV	EA	BIG NAME	SMALL NAME	VISITORS M	VISITORS F	VISITORS T	USUAL RES ABSENT M	USUAL RES ABSENT F	USUAL RES ABSENT T	USUAL RES PRESENT M	USUAL RES PRESENT F	USUAL RES PRESENT T	TOTAL DE JURE (QUES 6) H	TOTAL DE JURE (QUES 6) M	TOTAL DE JURE (QUES 6) F	TOTAL DE JURE (QUES 6) T	TOTAL DE FACTO (QUES 6) H	TOTAL DE FACTO (QUES 6) M	TOTAL DE FACTO (QUES 6) F	TOTAL DE FACTO (QUES 6) T
5	1	HAIMARAO	LUALUA	0	0	0	1	0	1	13	10	23	5	14	10	24	5	13	10	23
5	1	HAIMARAO	BUBUVUA	3	0	3	1	0	1	2	6	8	1	3	6	9	1	5	6	11
5	1	HAIMARAO	NGALIACHULU	0	0	0	0	0	0	8	2	10	2	8	2	10	2	8	2	10
5	1	HAIMARAO	VELANGE	0	0	0	1	0	1	20	13	33	6	21	13	34	6	20	13	33
5	1	HAIMARAO	VERAMATANGA	1	2	3	0	0	0	12	14	26	5	12	14	26	5	13	16	29
5	1	HAIMARAO	VERADADOLO	0	0	0	3	0	3	10	11	21	4	13	11	24	4	10	11	21
5	1	HAIMARAO	HAIMARAO	3	0	3	0	0	0	2	5	7	1	2	5	7	3	5	5	10
5	1	HAIMARAO	HAIMATUA	2	0	2	2	0	2	4	7	11	2	6	7	13	2	6	7	13
5	1	HAIMARAO		9	2	11	8	0	8	71	68	139	26	79	68	147	28	80	70	150
	1			9	2	11	8	0	8	71	68	139	26	79	68	147	28	80	70	150
5	2	AVU AVU	KOLOTABU	11	20	31	0	0	0	3	1	4	2	3	1	4	9	14	21	35
5	2	AVU AVU		11	20	31	0	0	0	3	1	4	2	3	1	4	9	14	21	35
	2			11	20	31	0	0	0	3	1	4	2	3	1	4	9	14	21	35
5	3	BILE	BILE	0	0	0	1	0	1	2	3	5	1	3	3	6	1	2	3	5
5	3	BILE		0	0	0	1	0	1	2	3	5	1	3	3	6	1	2	3	5
5	3	BETI	BETI	0	0	0	0	0	0	3	2	5	1	3	2	5	1	3	2	5
5	3	BETI		0	0	0	0	0	0	3	2	5	1	3	2	5	1	3	2	5
5	3	NA TITA	NA TITA	0	0	0	0	0	0	17	22	39	9	17	22	39	9	17	22	39
5	3	NA TITA		0	0	0	0	0	0	17	22	39	9	17	22	39	9	17	22	39
5	3	CHARANACHI	CHARANACHI	0	0	0	1	0	1	2	4	6	2	3	4	7	2	2	4	6
5	3	CHARANACHI		0	0	0	1	0	1	2	4	6	2	3	4	7	2	2	4	6
5	3	CHECHECHE	CHECHECHE	0	0	0	0	0	0	3	2	5	1	3	2	5	1	3	2	5
5	3	CHECHECHE		0	0	0	0	0	0	3	2	5	1	3	2	5	1	3	2	5
5	3	CHELU	CHELU	0	0	0	0	0	0	4	3	7	3	4	3	7	3	4	3	7
5	3	CHELU		0	0	0	0	0	0	4	3	7	3	4	3	7	3	4	3	7
5	3	CHIMIUTABU	CHIMIUTABU	0	0	0	1	2	3	4	4	8	4	5	6	11	3	4	4	8
5	3	CHIMIUTABU		0	0	0	1	2	3	4	4	8	4	5	6	11	3	4	4	8
5	3	HAIMOLUMOLU	HAIMOLUMOLU	0	0	0	0	2	2	10	7	17	4	10	9	19	4	10	7	17
5	3	HAIMOLUMOLU		0	0	0	0	2	2	10	7	17	4	10	9	19	4	10	7	17
5	3	HAIVONGA	HAIVONGA	0	0	0	0	0	0	11	13	24	6	11	13	24	6	11	13	24
5	3	HAIVONGA		0	0	0	0	0	0	11	13	24	6	11	13	24	6	11	13	24
	3			0	0	0	3	4	7	56	60	116	31	59	64	123	30	56	60	116
5	4	LONGGU	SAURI	0	0	0	1	0	1	8	6	14	3	9	6	15	3	8	6	14
5	4	LONGGU	KINDUVAROA	2	3	5	3	0	3	26	27	53	8	29	27	56	9	28	30	58
5	4	LONGGU	VERALAVA	0	0	0	10	2	12	33	30	63	15	43	32	75	14	33	30	63
5	4	LONGGU	KOLOKOKO	0	0	0	0	0	0	3	1	4	1	3	1	4	1	3	1	4
5	4	LONGGU	LABEANA	0	0	0	2	0	2	20	14	34	5	22	14	36	5	20	14	34
5	4	LONGGU	PUREPURE	0	0	0	1	0	1	24	18	42	8	25	18	43	8	24	18	42
5	4	LONGGU	TABANAKOLO	0	0	0	8	0	8	26	29	55	9	34	29	63	9	26	29	55
5	4	LONGGU	NGALATO	0	0	0	2	0	2	11	13	24	4	13	13	26	4	11	13	24
5	4	LONGGU		2	3	5	27	2	29	151	138	289	53	178	140	318	53	153	141	294
	4			2	3	5	27	2	29	151	138	289	53	178	140	318	53	153	141	294
5	5	KILILONA	KILILONA	0	0	0	2	0	2	3	3	6	1	5	3	8	1	3	3	6
5	5	KILILONA		0	0	0	2	0	2	3	3	6	1	5	3	8	1	3	3	6
5	5	KAUCA	KAUCA	0	0	0	5	5	10	13	12	25	7	18	17	35	6	13	12	25
5	5	KAUCA		0	0	0	5	5	10	13	12	25	7	18	17	35	6	13	12	25
5	5	MAKALI	MAKALI	0	0	0	4	0	4	14	26	40	8	18	26	44	8	14	26	40
5	5	MAKALI		0	0	0	4	0	4	14	26	40	8	18	26	44	8	14	26	40
5	5	PALULU	PALULU	0	0	0	1	0	1	6	7	13	3	7	7	14	3	6	7	13
5	5	PALULU		0	0	0	1	0	1	6	7	13	3	7	7	14	3	6	7	13

1972 GUADALCANAL WEATHER COAST CENSUS,DIVISION 5

DIV	EA	BIG NAME	SMALL NAME	VISITORS M	VISITORS F	VISITORS T	USUAL RES ABSENT M	USUAL RES ABSENT F	USUAL RES ABSENT T	USUAL RES PRESENT M	USUAL RES PRESENT F	USUAL RES PRESENT T	TOTAL DE JURE (QUES 6) H	TOTAL DE JURE (QUES 6) M	TOTAL DE JURE (QUES 6) F	TOTAL DE JURE (QUES 6) T	TOTAL DE FACTO (QUES 6) H	TOTAL DE FACTO (QUES 6) M	TOTAL DE FACTO (QUES 6) F	TOTAL DE FACTO (QUES 6) T
5	5	NGALIAKUETC	NCALIAKUETC	0	0	0	2	0	2	10	7	17	3	12	7	19	3	10	7	17
5	5	NGALIAKUETC		0	0	0	2	0	2	10	7	17	3	12	7	19	3	10	7	17
5	5	VERAKELIA	VERAKELIA	0	0	0	1	1	2	12	19	31	8	13	20	33	8	12	19	31
5	5	VERAKELIA		0	0	0	1	1	2	12	19	31	8	13	20	33	8	12	19	31
	5			0	0	0	15	6	21	58	74	132	30	73	80	153	29	58	74	132

1972 GUADALCANAL WEATHER COAST CENSUS, DIVISION 6

DIV	EA	BIG NAME	SMALL NAME	VISITORS M	VISITORS F	VISITORS T	USUAL RES ABSENT M	USUAL RES ABSENT F	USUAL RES ABSENT T	USUAL RES PRESENT M	USUAL RES PRESENT F	USUAL RES PRESENT T	TOTAL DE JURE (QUES 6) H	TOTAL DE JURE (QUES 6) M	TOTAL DE JURE (QUES 6) F	TOTAL DE JURE (QUES 6) T	TOTAL DE FACTO (QUES 6) H	TOTAL DE FACTO (QUES 6) M	TOTAL DE FACTO (QUES 6) F	TOTAL DE FACTO (QUES 6) T
6	1	NAHO	CHORA	0	0	0	1	0	1	0	2	2	1	1	2	3	1	0	2	2
6	1	NAHO	HARANI	0	0	0	2	1	3	21	22	43	7	23	23	46	7	21	22	43
6	1	NAHO	KOLOKOA	2	0	2	0	0	0	12	13	25	3	12	13	25	3	14	13	27
6	1	NAHO	MARASA	0	0	0	2	0	2	12	11	23	5	14	11	25	5	12	11	23
6	1	NAHO	PUAE	0	0	0	0	0	0	12	13	25	6	12	13	25	6	12	13	25
6	1	NAHO	ISUNA	0	2	2	2	0	2	25	20	45	9	27	20	47	9	25	22	47
6	1	NAHO		2	2	4	7	1	8	82	81	163	31	89	82	171	31	84	83	167
	1			2	2	4	7	1	8	82	81	163	31	89	82	171	31	84	83	167
6	2	KOLCHAUBA	KOLCHAUBA	2	4	6	0	0	0	4	5	9	2	4	5	9	3	6	9	15
6	2	KOLCHAUBA		2	4	6	0	0	0	4	5	9	2	4	5	9	3	6	9	15
6	2	SAPINATO	SAPINATO	0	0	0	1	0	1	1	1	2	1	2	1	3	1	1	1	2
6	2	SAPINATO		0	0	0	1	0	1	1	1	2	1	2	1	3	1	1	1	2
6	2	BOKASUGHU	KOMULAVA	0	1	1	1	0	1	12	19	31	6	13	19	32	6	12	20	32
6	2	BOKASUGHU	BEBECHOA	0	0	0	10	2	12	44	46	90	17	54	48	102	17	44	46	90
6	2	BOKASUGHU	KUMA	0	1	1	2	1	3	18	22	40	13	20	23	43	13	18	23	41
6	2	BOKASUGHU		0	2	2	13	3	16	74	87	161	36	87	90	177	36	74	89	163
6	2	NGALAKATI	KOMUBOLI	2	1	3	0	0	0	1	1	2	1	1	1	2	2	3	2	5
6	2	NGALAKATI		2	1	3	0	0	0	1	1	2	1	1	1	2	2	3	2	5
	2			4	7	11	14	3	17	80	94	174	40	94	97	191	42	84	101	185
6	3	MAKARUKA	NA KENE	0	0	0	2	0	2	14	12	26	5	16	12	28	5	14	12	26
6	3	MAKARUKA	NA ONDU	0	0	0	1	0	1	11	14	25	6	12	14	26	6	11	14	25
6	3	MAKARUKA	VERAHALEA	155	165	320	0	3	3	0	0	0	3	0	3	3	61	155	165	320
6	3	MAKARUKA	KOMUCHICHI	24	21	45	0	0	0	1	0	1	1	1	0	1	7	25	21	46
6	3	MAKARUKA	KOMUSULUA	0	0	0	1	1	2	9	8	17	3	10	9	19	3	9	8	17
6	3	MAKARUKA	MAIRO	0	0	0	0	1	1	6	5	11	4	6	6	12	4	6	5	11
6	3	MAKARUKA	NABELA	2	0	2	3	1	4	13	12	25	6	16	13	29	6	15	12	27
6	3	MAKARUKA	BILITANIA	0	2	2	0	0	0	2	1	3	1	2	1	3	1	2	3	5
6	3	MAKARUKA		181	188	369	7	6	13	56	52	108	25	63	58	121	93	237	240	477
	3			181	188	369	7	6	13	56	52	108	29	63	58	121	93	237	240	477
6	4	BUTOVATALE	KOMUVAOLU	3	3	6	3	3	6	25	24	49	11	28	27	55	12	28	27	55
6	4	BUTOVATALE	PENISI	7	7	14	0	0	0	0	0	0	0	0	0	0	4	7	7	14
6	4	BUTOVATALE	SUGHU	0	0	0	0	0	0	7	7	14	3	7	7	14	3	7	7	14
6	4	BUTOVATALE		10	10	20	3	3	6	32	31	63	14	35	34	69	19	42	41	83
6	4	MASI	SUGHUVAOLU	0	0	0	0	0	0	3	5	8	1	3	5	8	1	3	5	8
6	4	MASI	MASI	0	1	1	2	1	3	19	22	41	10	21	23	44	9	19	23	42
6	4	MASI	TUIVATA	0	0	0	0	0	0	4	2	6	1	4	2	6	1	4	2	6
6	4	MASI	TABANAKOLO	0	0	0	4	3	7	6	5	11	3	10	8	18	2	6	5	11
6	4	MASI		0	1	1	6	4	10	32	34	66	15	38	38	76	13	32	35	67
6	4	NAKILI	NA KODANI	0	0	0	0	1	1	13	16	29	6	13	17	30	6	13	16	29
6	4	NAKILI		0	0	0	0	1	1	13	16	29	6	13	17	30	6	13	16	29
	4			10	11	21	9	8	17	77	81	158	35	86	89	175	38	87	92	179
6	5	SUKIKI	VERABISI	0	1	1	0	1	1	21	10	31	4	21	11	32	4	21	11	32
6	5	SUKIKI	TANATEA	0	2	2	0	0	0	18	15	33	4	18	15	33	4	18	17	35
6	5	SUKIKI	TABANABITA	1	0	1	2	0	2	10	13	23	4	12	13	25	4	11	13	24
6	5	SUKIKI		1	3	4	2	1	3	49	38	87	12	51	39	90	12	50	41	91
6	5	BALO	TABUMULE	10	0	10	9	7	16	35	43	78	18	44	50	94	19	45	43	88
6	5	BALO		10	0	10	9	7	16	35	43	78	18	44	50	94	19	45	43	88
6	5	SANGGINARIKI	SANGGINARIKI	0	0	0	0	0	0	3	6	9	1	3	6	9	1	3	6	9
6	5	SANGGINARIKI		0	0	0	0	0	0	3	6	9	1	3	6	9	1	3	6	9
6	5	FABORE	FABORE	0	0	0	0	0	0	9	7	16	4	9	7	16	4	9	7	16

1972 GUADALCANAL WEATHER COAST CENSUS,DIVISION 6

DIV	EA	BIG NAME	SMALL NAME	VISITORS M	VISITORS F	VISITORS T	USUAL RES ABSENT M	USUAL RES ABSENT F	USUAL RES ABSENT T	USUAL RES PRESENT M	USUAL RES PRESENT F	USUAL RES PRESENT T	TOTAL DE JURE (QUES 6) H	TOTAL DE JURE (QUES 6) M	TOTAL DE JURE (QUES 6) F	TOTAL DE JURE (QUES 6) T	TOTAL DE FACTO (QUES 6) H	TOTAL DE FACTO (QUES 6) M	TOTAL DE FACTO (QUES 6) F	TOTAL DE FACTO (QUES 6) T
6	5	RABORE		0	0	0	0	0	0	9	7	16	4	9	7	16	4	9	7	16
	5			11	3	14	11	8	19	96	94	190	35	107	102	209	36	107	97	204
6	6	BOTA	BARAKONGGA	1	0	1	1	0	1	7	10	17	6	8	10	18	6	8	10	18
6	6	BOTA	VERAMAKURU	0	0	0	3	0	3	3	3	6	2	6	3	9	2	3	3	6
6	6	BOTA	VISANAORU	0	0	0	1	1	2	12	10	22	4	13	11	24	4	12	10	22
6	6	BOTA		1	0	1	5	1	6	22	23	45	12	27	24	51	12	23	23	46
	6			1	0	1	5	1	6	22	23	45	12	27	24	51	12	23	23	46
6	7	KOMULASI	KOMUNAMABE	0	0	0	2	2	4	3	4	7	1	5	6	11	1	3	4	7
6	7	KOMULASI	MALAISU	0	0	0	0	0	0	2	2	4	1	2	2	4	1	2	2	4
6	7	KOMULASI		0	0	0	2	2	4	5	6	11	2	7	8	15	2	5	6	11
6	7	NAMONAATO	NAMONAATO	0	0	0	0	0	0	11	14	25	5	11	14	25	5	11	14	25
6	7	NAMONAATO		0	0	0	0	0	0	11	14	25	5	11	14	25	5	11	14	25
6	7	SANGGASERE	KOMUNATABOLO	3	8	11	4	0	4	23	29	52	10	27	29	56	11	26	37	63
6	7	SANGGASERE		3	8	11	4	0	4	23	29	52	10	27	29	56	11	26	37	63
6	7	VAHU	KOLOLAOVI	2	0	2	0	0	0	8	5	13	3	8	5	13	3	10	5	15
6	7	VAHU		2	0	2	0	0	0	8	5	13	3	8	5	13	3	10	5	15
	7			5	8	13	6	2	8	47	54	101	20	53	56	109	21	52	62	114
6	8	KERESOTO	KERESOTO	0	0	0	0	0	0	9	5	18	3	9	9	18	3	9	9	18
6	8	KERESOTO		0	0	0	0	0	0	9	9	18	3	9	9	18	3	9	9	18
6	8	KULIFEO	BUTOREURA	0	0	0	0	0	0	4	2	6	1	4	2	6	1	4	2	6
6	8	KULIFEO		0	0	0	0	0	0	4	2	6	1	4	2	6	1	4	2	6
6	8	NGALIBADI	NGALIBADI	0	0	0	0	0	0	7	3	10	3	7	3	10	3	7	3	10
6	8	NGALIBADI		0	0	0	0	0	0	7	3	10	3	7	3	10	3	7	3	10
6	8	TAVALA	TAVALA	0	0	0	0	0	0	8	9	17	4	8	9	17	4	8	9	17
6	8	TAVALA		0	0	0	0	0	0	8	9	17	4	8	9	17	4	8	9	17
6	8	VALACHICHI	VALACHICHI	0	0	0	0	0	0	5	3	8	1	5	3	8	1	5	3	8
6	8	VALACHICHI		0	0	0	0	0	0	5	3	8	1	5	3	8	1	5	3	8
6	8	VATUVATALI	VATUVATALI	0	0	0	1	0	1	10	4	14	3	11	4	15	3	10	4	14
6	8	VATUVATALI		0	0	0	1	0	1	10	4	14	3	11	4	15	3	10	4	14
6	8	VATULAVA	KOMUNIVATU	0	0	0	0	0	0	8	4	12	2	8	4	12	2	8	4	12
6	8	VATULAVA		0	0	0	0	0	0	8	4	12	2	8	4	12	2	8	4	12
6	8	OA	EBA EBA	9	9	18	2	1	3	36	35	71	13	38	36	74	14	45	44	89
6	8	OA		9	9	18	2	1	3	36	35	71	13	38	36	74	14	45	44	89
	8			9	9	18	3	1	4	87	69	156	30	90	70	160	31	96	78	174

1972 GUADALCANAL WEATHER COAST CENSUS,DIVISION 7

DIV	EA	BIG NAME	SMALL NAME	VISITORS M	F	T	USUAL RES ABSENT M	F	T	USUAL RES PRESENT M	F	T	TOTAL DE JURE (QUES 6) H	M	F	T	TOTAL DE FACTO (QUES 6) H	M	F	T
7	1	VATUALAE	VAIHANI	0	0	0	0	0	0	4	6	10	2	4	6	10	2	4	6	10
7	1	VATUALAE	VAILAU	0	0	0	1	0	1	22	15	37	6	23	15	38	6	22	15	37
7	1	VATUALAE		0	0	0	1	0	1	26	21	47	8	27	21	48	8	26	21	47
7	1	BUTUFUA	ALI ALI	0	0	0	3	0	3	0	1	1	1	3	1	4	1	0	1	1
7	1	BUTUFUA	KEMUNIGHABIGHA	0	0	0	1	2	3	16	13	29	6	17	15	32	6	16	13	29
7	1	BUTUFUA		0	0	0	4	2	6	16	14	30	7	20	16	36	7	16	14	30
	1			0	0	0	5	2	7	42	35	77	15	47	37	84	15	42	35	77
7	2	PICHAHILA	PICHAHILA	1	0	1	5	2	7	34	39	73	16	39	41	80	16	35	39	74
7	2	PICHAHILA	NA BAKE	0	0	0	2	0	2	5	6	11	3	7	6	13	3	5	6	11
7	2	PICHAHILA		1	0	1	7	2	9	39	45	84	19	46	47	93	19	40	45	85
7	2	KARUKARU	KARUKARU	2	0	2	0	0	0	0	0	0	0	0	0	0	1	2	0	2
7	2	KARUKARU		2	0	2	0	0	0	0	0	0	0	0	0	0	1	2	0	2
7	2	NAHOBA	NAHOBA	0	0	0	1	1	2	9	11	20	4	10	12	22	4	9	11	20
7	2	NAHOBA	ULUCHARI	0	0	0	1	3	4	24	22	46	10	25	25	50	10	24	22	46
7	2	NAHOBA		0	0	0	2	4	6	33	33	66	14	35	37	72	14	33	33	66
	2			3	0	3	9	6	15	72	78	150	33	81	84	165	34	75	78	153
7	3	NARAHO	NARAHO	0	0	0	0	0	0	6	7	13	4	6	7	13	4	6	7	13
7	3	NARAHO		0	0	0	0	0	0	6	7	13	4	6	7	13	4	6	7	13
7	3	KOLOVAOLU	SALOIVATALE	0	0	0	1	1	2	3	4	7	1	4	5	9	1	3	4	7
7	3	KOLOVAOLU		0	0	0	1	1	2	3	4	7	1	4	5	9	1	3	4	7
7	3	OSONAKARO	OSONAKARO	0	0	0	2	2	4	13	8	21	6	15	10	25	6	13	8	21
7	3	OSONAKARO	BELANIMANU	0	0	0	6	4	10	12	22	34	5	18	26	44	5	12	22	34
7	3	OSONAKARO	KOMULONGA	0	0	0	1	0	1	2	2	4	1	3	2	5	1	2	2	4
7	3	OSONAKARO	TELINA	0	0	0	0	0	0	6	3	9	1	6	3	9	1	6	3	9
7	3	OSONAKARO	VERABAU	0	0	0	2	2	4	6	8	14	4	8	10	18	4	6	8	14
7	3	OSONAKARO	VERAVAOLU	0	0	0	1	0	1	2	7	9	2	3	7	10	2	2	7	9
7	3	OSONAKARO		0	0	0	12	8	20	41	50	91	19	53	58	111	19	41	50	91
	3			0	0	0	13	9	22	50	61	111	24	63	70	133	24	50	61	111
7	4	PEONAKAKE	PEONAKAKE	0	0	0	2	0	2	9	10	19	4	11	10	21	4	9	10	19
7	4	PEONAKAKE		0	0	0	2	0	2	9	10	19	4	11	10	21	4	9	10	19
7	4	PEONAVULA	KOLCHAUHA	0	0	0	3	2	5	14	11	25	7	17	13	30	7	14	11	25
7	4	PEONAVULA		0	0	0	3	2	5	14	11	25	7	17	13	30	7	14	11	25
	4			0	0	0	5	2	7	23	21	44	11	28	23	51	11	23	21	44

1972 GUADALCANAL WEATHER COAST CENSUS, DIVISION 8

DIV	EA	BIG NAME	SMALL NAME	VISITORS M	VISITORS F	VISITORS T	USUAL RES ABSENT M	USUAL RES ABSENT F	USUAL RES ABSENT T	USUAL RES PRESENT M	USUAL RES PRESENT F	USUAL RES PRESENT T	TOTAL DE JURE (QUES 6) H	TOTAL DE JURE (QUES 6) M	TOTAL DE JURE (QUES 6) F	TOTAL DE JURE (QUES 6) T	TOTAL DE FACTO (QUES 6) H	TOTAL DE FACTO (QUES 6) M	TOTAL DE FACTO (QUES 6) F	TOTAL DE FACTO (QUES 6) T
8	1	BESO	BESO	0	0	0	5	0	5	7	7	14	4	12	7	19	4	7	7	14
8	1	BESO		0	0	0	5	0	5	7	7	14	4	12	7	19	4	7	7	14
8	1	MATEKOLUKOLU	MATEKOLUKOLU	0	0	0	4	1	5	9	8	17	4	13	9	22	4	9	8	17
8	1	MATEKOLUKOLU		0	0	0	4	1	5	9	8	17	4	13	9	22	4	9	8	17
8	1	SOHATALI	SOHATALI	0	0	0	0	0	0	9	8	17	3	9	8	17	3	9	8	17
8	1	SOHATALI		0	0	0	0	0	0	9	8	17	3	9	8	17	3	9	8	17
8	1	KOPIU BAY	KOPIU BAY	1	0	1	4	0	4	13	20	33	8	17	20	37	8	14	20	34
8	1	KOPIU BAY		1	0	1	4	0	4	13	20	33	8	17	20	37	8	14	20	34
8	1	KOPIU SCHOOL	KOPIU SCHOOL	15	7	22	0	0	0	0	0	0	0	0	0	0	3	15	7	22
8	1	KOPIU SCHOOL		15	7	22	0	0	0	0	0	0	0	0	0	0	3	15	7	22
8	1	SPEAR LINE	SPEAR LINE	0	0	0	0	0	0	3	4	7	1	3	4	7	1	3	4	7
8	1	SPEAR LINE		0	0	0	0	0	0	3	4	7	1	3	4	7	1	3	4	7
8	1	PURAKIKI	PURAKIKI	0	0	0	0	0	0	19	27	46	7	19	27	46	7	19	27	46
8	1	PURAKIKI		0	0	0	0	0	0	19	27	46	7	19	27	46	7	19	27	46
8	1	WAIMAEA	WAIMAEA	0	0	0	15	8	23	20	33	53	14	35	41	76	13	20	33	53
8	1	WAIMAEA		0	0	0	15	8	23	20	33	53	14	35	41	76	13	20	33	53
8	1	KARAPOPORA	KARAPOPORA	0	0	0	2	0	2	8	7	15	2	10	7	17	2	8	7	15
8	1	KARAPOPORA		0	0	0	2	0	2	8	7	15	2	10	7	17	2	8	7	15
8	1	HUNIVATU	HUNIVATU	0	0	0	2	0	2	8	6	14	2	10	6	16	2	8	6	14
8	1	HUNIVATU		0	0	0	2	0	2	8	6	14	2	10	6	16	2	8	6	14
	1			16	7	23	32	9	41	96	120	216	45	128	129	257	47	112	127	239
8	2	KOMUNIKAU	KOMUNIKAU	0	0	0	0	0	0	4	5	9	1	4	5	9	1	4	5	9
8	2	KOMUNIKAU		0	0	0	0	0	0	4	5	9	1	4	5	9	1	4	5	9
8	2	POINAHO	POINAHO	0	0	0	6	11	17	8	7	15	5	14	18	32	4	8	7	15
8	2	POINAHO		0	0	0	6	11	17	8	7	15	5	14	18	32	4	8	7	15
8	2	SARI	SARI	1	1	2	0	2	2	6	11	17	2	6	13	19	2	7	12	19
8	2	SARI		1	1	2	0	2	2	6	11	17	2	6	13	19	2	7	12	19
8	2	EVE,EVE	EVE,EVE	0	0	0	1	0	1	5	3	8	1	6	3	9	1	5	3	8
8	2	EVE,EVE		0	0	0	1	0	1	5	3	8	1	6	3	9	1	5	3	8
8	2	OTERAMA	OTERAMA	0	0	0	0	0	0	3	4	7	1	3	4	7	1	3	4	7
8	2	OTERAMA		0	0	0	0	0	0	3	4	7	1	3	4	7	1	3	4	7
8	2	ONE	ONE	0	0	0	3	1	4	10	11	21	3	13	12	25	3	10	11	21
8	2	ONE		0	0	0	3	1	4	10	11	21	3	13	12	25	3	10	11	21
8	2	NAZARETH	NAZARETH	0	0	0	1	0	1	9	5	14	2	10	5	15	2	9	5	14
8	2	NAZARETH		0	0	0	1	0	1	9	5	14	2	10	5	15	2	9	5	14
8	2	ONETEWA	ONETEWA	0	0	0	0	1	1	2	3	5	1	2	4	6	1	2	3	5
8	2	ONETEWA		0	0	0	0	1	1	2	3	5	1	2	4	6	1	2	3	5
8	2	KOMUPAU	KOMUPAU	0	0	0	0	0	0	10	8	18	3	10	8	18	3	10	8	18
8	2	KOMUPAU		0	0	0	0	0	0	10	8	18	3	10	8	18	3	10	8	18
8	2	KOMUNIPUA	KOMUNIPUA	3	1	4	2	0	2	5	8	13	3	7	8	15	3	8	9	17
8	2	KOMUNIPUA		3	1	4	2	0	2	5	8	13	3	7	8	15	3	8	9	17
8	2	NARIORO	NARIORO	1	0	1	1	0	1	3	8	11	2	4	8	12	2	4	8	12
8	2	NARIORO		1	0	1	1	0	1	3	8	11	2	4	8	12	2	4	8	12
8	2	WAIHUSA	WAIHUSA	0	2	2	0	0	0	10	12	22	3	10	12	22	3	10	14	24
8	2	WAIHUSA		0	2	2	0	0	0	10	12	22	3	10	12	22	3	10	14	24
8	2	HAUTAHE	HAUTAHE	3	0	3	4	0	4	13	8	21	3	17	8	25	4	16	8	24
8	2	HAUTAHE		3	0	3	4	0	4	13	8	21	3	17	8	25	4	16	8	24
8	2	KOMUNIPAIPAI	KOMUNIPAIPAI	0	0	0	0	0	0	8	17	25	4	8	17	25	4	8	17	25
8	2	KOMUNIPAIPAI		0	0	0	0	0	0	8	17	25	4	8	17	25	4	8	17	25
8	2	SU'U	SU'U	0	0	0	0	1	1	10	5	15	2	10	6	16	2	10	5	15

1972 GUADALCANAL WEATHER COAST CENSUS,DIVISION 8

DIV	FA	BIG NAME	SMALL NAME	VISITORS M	VISITORS F	VISITORS T	USUAL RES ABSENT M	USUAL RES ABSENT F	USUAL RES ABSENT T	USUAL RES PRESENT M	USUAL RES PRESENT F	USUAL RES PRESENT T	TOTAL DE JURE (QUES 6) H	TOTAL DE JURE (QUES 6) M	TOTAL DE JURE (QUES 6) F	TOTAL DE JURE (QUES 6) T	TOTAL DE FACTO (QUES 6) H	TOTAL DE FACTO (QUES 6) M	TOTAL DE FACTO (QUES 6) F	TOTAL DE FACTO (QUES 6) T
8	2	SU'L		0	0	0	0	1	1	10	5	15	2	10	6	16	2	10	5	15
	2			8	4	12	18	16	34	106	115	221	36	124	131	255	36	114	119	233
8	3	PARURU	PARURU	12	3	15	0	2	2	2	3	5	1	2	5	7	2	14	6	20
8	3	PARURU		12	3	15	0	2	2	2	3	5	1	2	5	7	2	14	6	20
8	3	MANIKARAKU	MANIKARAKU	16	4	20	0	0	0	0	0	0	0	0	0	0	5	16	4	20
8	3	MANIKARAKU		16	4	20	0	0	0	0	0	0	0	0	0	0	5	16	4	20
	3			28	7	35	0	2	2	2	3	5	1	2	5	7	7	30	10	40
8	4	POROKOKORE	POROKOKORE	1	1	2	2	0	2	16	10	26	3	18	10	28	4	17	11	28
8	4	POROKOKORE		1	1	2	2	0	2	16	10	26	3	18	10	28	4	17	11	28
8	4	NEW HOTO	NEW HOTO	0	0	0	1	1	2	10	11	21	4	11	12	23	4	10	11	21
8	4	NEW HOTO		0	0	0	1	1	2	10	11	21	4	11	12	23	4	10	11	21
	4			1	1	2	3	1	4	26	21	47	7	29	22	51	8	27	22	49

1972 GUADALCANAL WEATHER COAST CENSUS -- TOTALS

	VISITORS			USUAL RESIDENTS ABSENT			USUAL RESIDENTS PRESENT			TOTAL DE JURE (QUES 6)				TOTAL DE FACTO (QUES 6)			
	M	F	T	M	F	T	M	F	T	H	M	F	T	H	M	F	T
DIVISION 1	147	97	244	175	89	264	498	536	1034	213	673	625	1298	213	645	633	1278
DIVISION 2	52	43	95	273	125	398	670	704	1374	311	943	829	1772	293	722	747	1469
DIVISION 3	17	14	31	195	79	274	586	669	1255	268	781	748	1529	265	603	683	1286
DIVISION 4	8	24	32	108	80	188	368	335	703	175	476	415	891	156	376	359	735
DIVISION 5	22	25	47	53	12	65	339	341	680	142	392	353	745	149	361	366	727
DIVISION 6	223	228	451	62	30	92	547	548	1095	232	609	578	1187	304	770	776	1546
DIVISION 7	3	0	3	32	19	51	187	195	382	83	219	214	433	84	190	195	385
DIVISION 8	53	19	72	53	28	81	230	259	489	89	283	287	570	98	283	278	561
TOTAL	525	450	975	951	462	1413	3425	3587	7012	1513	4376	4049	8425	1562	3950	4037	7987

Appendix D

GUADALCANAL WEATHER COAST PROJECT

CALENDAR OF EVENTS

Date	Age in 1972		
1971	1	:	
1970	2	:	February: first complete census taken in B.S.I.P. cyclone "Ida": did little damage. Anglican Holy Year in Memory of Bishop Patteson. Burns Philp finished shipping services to B.S.I.P.: "Tulagi" stopped coming. Helicopter first used in Koloula Valley by Utah Mining Company. Appollus Revelli elected member of Vatukulau Ward, Guadalcanal Council.
1969	3	:	High Commissioner, Sir Michael Gass, arrived in Solomons. September: Duke of Kent visited. Utah Company begins prospecting for copper in Koloula Valley. Solomon Islands Museum opened. Third South Pacific Games: held in Port Moresby.
1968	4	:	High Commissioner, Sir Robert Foster, left the Solomons for Fiji. Cyclone "Becky" in December hit East Guadalcanal: some damage.
1967	5	:	Marau airstrip opened. First Legislative Council elections. Vatukapicha School destroyed: headmaster received Humane Society Medal for saving lives of children. Appollus Revelli appointed S.S.E.C. President, Inakona District.
1966	6	:	Avu Avu airstrip completed. Cyclone "Angela" brings big winds to Weather Coast. Introduction of Australian decimal currency (February 14).

Date	Age in 1972		
1965	7	:	Workers' strike in Honiara. Honiara census (October). Heavy rains on Weather Coast: 1500 people moved; Kochokocho and Valechomara destroyed; new settlements established at Boko, Aona and Ngaliturara. Gulbun C arrived at Makaruka to study Moro Movement. Rural health center, including dispensary and maternity facilities, opened at Kuma and Chocho.
1964	8	:	First Guadalcanal Council elections. European-style S.S.E. church completed at Duidui in May.
1963	9	:	Work began on Karukaru Agricultural Demonstration Station, and resthouse built (Alualu River). Yaws eradication team revisited East and West Talise, Avu Avu and Marau (March). Heavy rain flooded Avu Avu Mission. James Tedder becomes District Commissioner, Central, Solomons. Bishop Leonard Alufurai and Bishop Dudley Tuti consecrated in November. First South Pacific Games. Planting of cacao seedlings along Weather Coast: 4000 seedlings planted near Pichahila (Petero Cheni); 2500 seedlings near Haimarao (Dominic Alebua); 1500 at Vatukulau (Ngalia); 500 at Navasa: Tetekenji (Bili Mataseri).
1962	10	:	New wooden wharf completed at Paruru, Marau Sound. European-style church began at Duidui. Spraying on Weather Coast by W.H.O. Malaria Eradication team. Francis Bugotu becomes Education Officer. James Tedder appointed District Officer, Guadalcanal. New market built at Honiara. Markina Mission built first permanent structures.

Date	Age in 1972		
1961	11	:	Avu Avu Rural Hospital opened to patients at Roman Catholic Mission. Earthquake destroys buildings at Makina Mission, Marau Sound. Rural health center, with dispensary and maternity facilities, established at Marasa.
1960	12	:	Guadalcanal road opened as far as Visale. Headman Petero Cheni Tetekanji takes over Veuru Moli sub-district. Water pipe installed in Sughu, Wanderer Bay.
1959	13	:	"Bina" begins monthly market service to whole of Weather Coast (lasted only one year). First sample census of B.S.I.P. (November). Visit of H.R.H. Duke of Edinburgh in "Britannia".
1958	14	:	
1957	15	:	Dispensary built at Balo under direction of Sago, headman of Bota Moli. "Arekamoa" drifted from Gilberts to Malagheti, and then wrecked on Lauvi Reef (November).
1956	16	:	Yaws eradication campaign began. Moro had vision and began Movement.
1955	17	:	Petero Cheni Pichahila, appointed Assistant District Headman, Tetekanji.
1954	18	:	Martin Manganimate, Wanderer Bay, launched motorized dug-out canoe. Dresser arrives at Nalikobe Leper Station, Duidui Ward, to take charge of leper village built by people of Talise District. Bgakua appointed Assistant District Headman of Talise 11, instead of Cheka (Viso) who retired. Roman Catholic Mission Station established at Malagheti: Lasted until 1956.
1953	19	:	Guadalcanal Council started, composed of rural sub-district councils: Malango-Vulolo, Lengo Birao, Sugu, Visale and Talise. Marcus Pipisi appointed District Headman, West Talise.

Date	Age in 1972		
			Pichahila shifted to new site. High Commissioner tours Weather Coast for first time: visits Avu Avu, Longgu, Sugnu, Malagheti Duidui, and Sughu (Wanderer Bay). Bara, Marubo area "Big Man", died.
1952	20	:	Big wind destroyed Avu Avu mission. Fr. Aloisio Houte left Avu Avu for Marau, and re-established Marau Mission at Makina.
1951	21	:	Lambina of Naho appointed Assistant District Headman, Veuru Moli sub-district. S.S.E.C. European missionary left Inakona. Joe Love, Headman, Talise, discharged from office. John Sulu, Assistant District Headman, Tetekanji adds Bota Moli sub-district to his area.
1950	22	:	Emily Sprott left Santa Isabel. First meeting of Talise Native Council at Taupada, Malagheti. Earthquake tremors: severe at Biti, Talise bush villages; Chaunarogha swept into sea, also food gardens at Duidui. Jack Chekecheke of Viso appointed Assistant District Headman, Talise District II. Gena of Malagheti appointed Assistant District Headman, Talise District I. John Sulu, Veramakuru, appointed Assistant District Headman, Tetekenji as successor to Headman Daniti. Death of Roka of Naho, Headman of Veuru Moli for 21 years.
1949	23	:	
1948	24	:	
1947	25	:	"Freedom Movement" begins in Talise District, lead by Patteson Nganga, advocating freedom "of speech", "from want", "of religion", "from fear". S.S.E.M. European missionary returned to Inakona. Avu Avu Council established under President Kiki. Council House built at Longgu.

Date	Age in 1972		
			Babanakira School (Tina River) began classes. Gauvalisi Village, Tina River, moved from hills to flat.
1946	26	:	Edmund Kiva (Melanesian Mission) ordained Priest. American military builds radio towers at head of Koloula Valley.
1945	27	:	Protectorate capital shifted from Tulagi to Honiara. Bota Moli Council begins with 8 members: President Headman Opa (Veramakuru).
1944	28	:	First beginnings of Marching Rule. Big wave destroyed part of Makaruka (Bilitania), which was later re-located.
1943	29	:	O.C.Noel appointed Resident Commissioner.
1942	30	:	War with Japanese on Guadalcanal.
1941	31	:	Beginning of Pacific War with Japan. First Native Courts and Councils established.
1940	32	:	
1939	33	:	W.S. Marchant appointed Resident Commissioner. World War II began in Europe.
1938	34	:	Brownlees, District Officer at Santa Isabel.
1937	35	:	D.C. Horton, District Officer at Tataba, Santa Isabel. Strong earthquake affected Weather Coast. King George VI crowned.
1936	36	:	Senior School opened at Makina, Marau Sound: headmaster was Fr. Dennis Moore.
1935	37	:	Mario Meke died at Marubo.
1934	38	:	
1933	39	:	S.S.E.M. European Missionary arrived at Inakona. Tangarare Catholics boycotted Mission for three years.

Date	Age in 1972		
1932	40	:	Hugo Toko and R. Fallowes, Melanesian Mission, arrived at Savo.
1931	41	:	Strong earthquake felt on Weather Coast.
1930	42	:	
1929	43	:	Roko of Naho appointed Headman, Veuru Moli district. F.N. Ashley appointed Resident Commissioner.
1928	44	:	Opa (Veramakuru) appointed Headman of Bota Moli.
1927	45	:	Administrators Bell and Lillies murdered on Malaita: British warships shelled villages as punishment.
1926	46	:	First aircraft, a sea plane, came to Solomons.
1925	47	:	
1924	48	:	R. Sprott, Melanesian Mission, died.
1923	49	:	Rua Sura abandoned as site for Roman Catholic Mission.
1922	50	:	
1921	51	:	Head tax started on Guadalcanal.
1920	52	:	Ruavatu Roman Catholic Mission established.
1919	53	.	C. Workman appointed Resident Commissioner. Catholic Bishop Bertreux died and was succeeded by Bishop Raucaz (in 1920).
1918	54	:	World War I in Europe ended.
1915	57	:	
1914	58	:	World War I in Europe began. Australia gained Bougainville from Germany. Roman Catholic church leased land at Makina, but not used until 1920's. Mission began in the area in 1914, at Poinikari, but stayed open only one year. Aola sub-district station opened late in the year.

Date	Age in 1972	
1913	59	: Hairo plantation land bought. Government Hospital established at Tulagi.
1912	60	: S.S.E.M. Missionary, Mr. Lees, came to Inakona.
1911	61	: First news-sheet, "Turupatu", in Ghari language, published by Roman Catholic Mission at Rua Sura. Survey by HMS Sealark. Fr. Rinaldo Parese arrived at Tangarare Mission and stayed (except for 1922-28) until 1933; well remembered and acknowledged as a Ghari expert and associated with the Tangarare boycott (see 1933).
1910	62	: Recruiting of wage labor for Fiji stopped. Roman Catholic Mission at Visale opened: Woodford present. The sacrificial site of the great Tindalo Puraka, at Visale Peak, fell into the sea. First Chinese came to work as boat-builders and carpenters for Burns Philp. Burns Philp opened trading stations at Makambo, (Tulagi), Faisi, (Shortlands), and Gizo.
1909	63	: Frank Bollen, Melanesian missionary at Maravovo, died.
1908	64	: Missionary Sprott at Tasimboko (Melanesian Mission). Henry Welshman, Missionary on Santa Isabel, died.
1907	65	: Fr. Jean Boudard first arrived at Avu Avu Roman Catholic Mission and stayed until 1942.
1906	66	: Last of labor recruits returned from Queensland.
1905	67	: Mamara plantation begun. Levers bought land at Marau from Capt. Otto Svensen (Capt. Marau).
1904	68	: Roman Catholic Mission first started at Marau: lasted until 1915.
1903	69	: Roman Catholic Mission established at Moli (Makaruka), lasting until 1907.

Date	Age in 1972	
1902	70	: Capt. Billy Pope, of the Kumboro, was well established at Marau as trader and labor recruiter. Roman Catholic Mission at Tangarare established.
1901	71	: Queen Victoria died.
1900	72	: Tangarare Roman Catholic Mission established.
1899	73	: First "outstation" of Rua Sura Roman Catholic Mission began at Avu Avu.
1898	74	: Roman Catholic church bought land at Rua Sura Island, and established first Mission; later in year also bought some land at Moli (Makaruka).
1897	75	: Tulagi founded as seat of Government. Maravovo School opened by Melanesian Mission.
1896	76	: Anglican Mission opened first boarding school at Siota. Austrian expedition attacked and murdered at Tatuve. C.M. Woodford appointed Resident Commissioner.
1894	78	: Sampson Chaku returned from Queensland canefields and set up Christian school at Rongoni (Koloula); later established a Christian village at Ghorokindi.
c1890	82	: First coconut plantations established on Guadalcanal.
1885-6	87	: C.M. Woodford made three unsuccessful attempts to reach interior of Guadalcanal.
1867	105	: "Kanakas", mainly from the New Hebrides, first used as labor on Queensland canefields.
1854	118	: Capt. Denham of HMS Herald searched for Benjamin Boyd inland of Wanderer Bay. Convict Dennis Griffith escaped into bush at Wanderer Bay.
1851	121	: Benjamin Boyd killed at Wanderer Bay.

Sources: Weather Coast informants, archival materials, Marriot (n.d. c1969), Chapman (1971:34-6), Groenewegen (1972: 115-6), McArthur (1961:92), and secondary literature.

Appendix E
Derivation of Kumara Statistics

Total Yield

To determine the total yield of kumara it is necessary to convert figures for garden acreage and number of plants for each successive crop into the standard measurement of one acre. To this end, the number of kumara mounds for one crop (Table 6.5) were divided by the garden acreage of that crop (Table 6.3) to give the average number of kumara mounds per acre, which in turn was multiplied by the average yield per mound (Table 6.5). The resultant figure of yield per acre, in pounds, was converted to tons per acre (1 ton equals 2,240 pounds: Table E1). The totals for Ghauvalisi and Sughu were reduced by 15 and 25 percent respectively to account for the presence of logs, stumps, and undergrowth within their garden areas.

Despite the temptation, it is incorrect to assume that these yield figures apply equally to the annual calendar. Field observations established the kumara growing cycles for each site to be: Hatare/Poinaho six months, Ghauvalisi three months, and Sughu five months (Fig. 1.4). In Ghauvalisi it is consequently possible to plant a section of land to kumara, harvest the first crop, plant a second crop, and harvest the second crop all within 12 calendar months. Theoretically, the annual yield from an acre of Ghauvalisi land would be 16.6 tons (first crop) plus 6.1 tons (second crop), for a total of 22.7 tons. On the other hand in Hatare/Poinaho, with a six-month growing cycle, there would be only one crop produced per year on one unit of land. For this reason yield figures were calculated for only those gardens actually planted at the time of the survey and were not used to project an annual figure (Table E1).

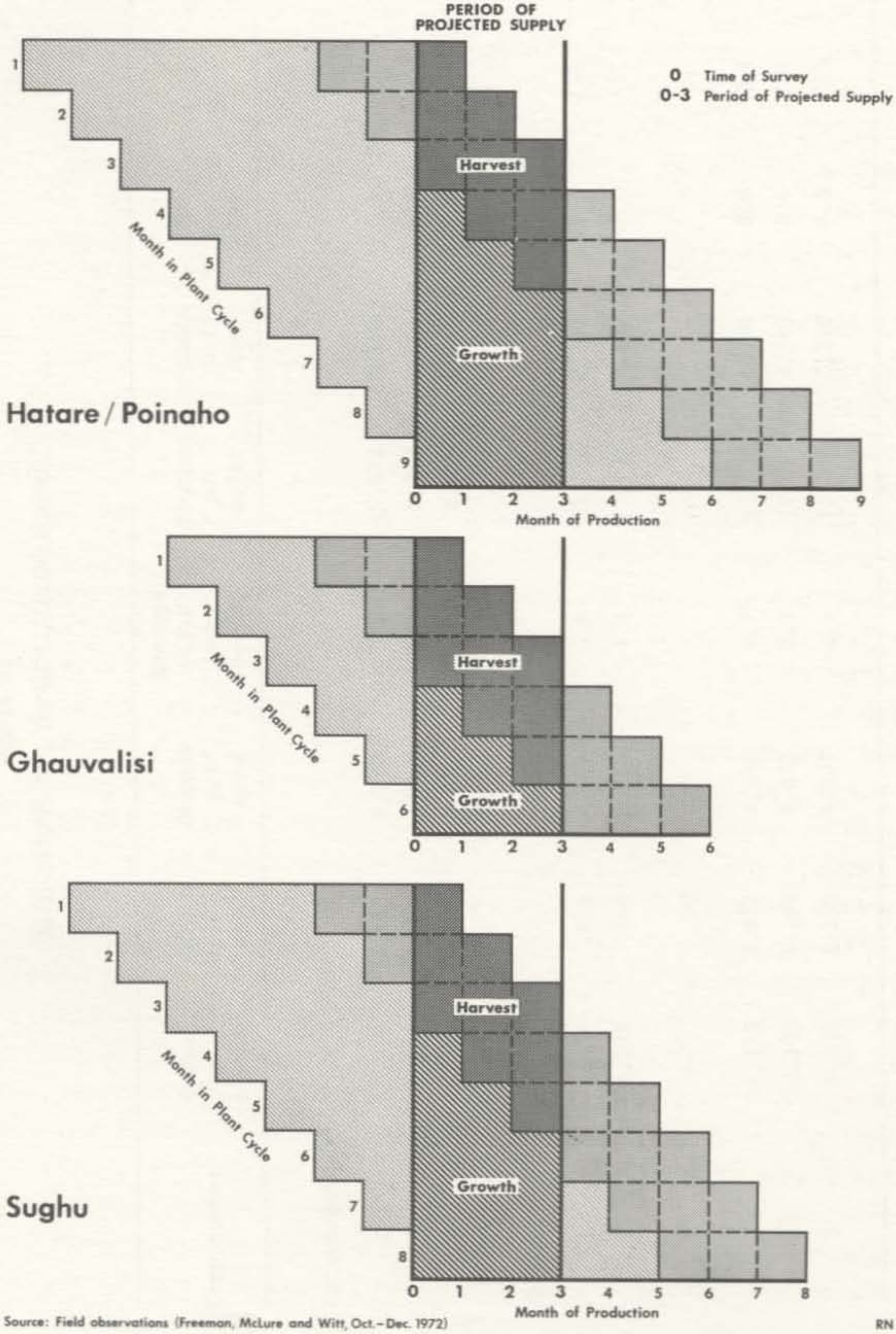
Table E1

CALCULATIONS FOR TOTAL YIELD OF KUMARA

Crop number	Number of mounds	÷	Garden acreage	=	Mounds per acre	x	Average yield per mound	=	Pounds per acre	÷	Pounds per ton	=	Tons per acre	-	Adjustment	=	Adjusted total tons per acre
Hatare/Poinaho																	
1	5,376		1.187		4,529		3.5		15,852		2,240		7.1		-		7.1
2	4,458		1.123		3,970		2.2		8,734		2,240		3.9		-		3.9
3	772		.160		4,825		1.8		8,685		2,240		3.9		-		3.9
Ghauvalisi																	
1	4,606		.989		4,657		9.4		43,776		2,240		19.5		15%		16.6
2	3,298		.860		3,835		4.2		16,107		2,240		7.2		15%		6.1
Sughu																	
1	16,155		3.522		4,587		4.7		21,559		2,240		9.6		25%		7.2
2	29,303		6.264		4,678		2.7		12,631		2,240		5.6		25%		4.2
3	6,391		1.305		4,897		2.5		12,243		2,240		5.5		25%		4.1

Data Source: Field notes

KUMARA: GROWTH AND HARVEST CYCLES



Source: Field observations (Freeman, McLure and Witt, Oct.–Dec. 1972)

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Figure D1

Supply

As previously noted, field observations established the growing cycles to be six months for Hatare/Poinaho, three months for Ghauvalisi, and five months for Sughu. Each site had a three-month period of harvest and it was assumed that kumara is planted and harvested on a continual and equal basis. The expected supply of kumara was projected for a three-month period, given that length of growing period in Ghauvalisi, since projection for a longer time would have involved assumptions regarding new Ghauvalisi plantings. In addition, a three-month projection involves only those gardens and crops actually surveyed.

Figure D1 graphically presents the growth and harvest cycles for the three Weather Coast sites. The time of the garden survey is considered to be 0 on the production axis and the period of projected supply is between 0 and 3 months on the same axis. The variation in the heights of the three diagrams reflects the different length of plant cycle (growth and harvest) for each site. On the basis of these diagrams, it may be determined how much kumara will be available for harvest during the three month period of projected supply.

In Hatare/Poinaho, for example, with a nine month plant cycle (growth plus harvest), the total production status of the gardens over a three-month period may be divided into 27 units (Figure D1). Prior to the time of survey, at point 0 on the production axis, 3/27 of the total expected production will have been harvested. During the three month period of projected supply, 9/27 of the total expected production will be available for harvest and this is the amount to be determined. After the period of projected supply, an additional 15/27 of the total expected production will still be available for harvest. This procedure can also be applied to the garden data for Ghauvalisi and Sughu. Because of the different plant cycles, the total production over a three-month period in Ghauvalisi and in Sughu is divided into 18 and 24 units respectively. The ratio of production already harvested for each of the three sites, to be harvested during the three-month period of projected supply, and to be harvested following that three-month period is summarized in Table E2.

Table E2

PROPORTION OF KUMARA PRODUCTION HARVESTED BEFORE, DURING, AND AFTER PROJECTED SUPPLY PERIOD

	Hatare/ Poinaho	Ghauvalisi	Sughu
Total production	27/27	18/18	24/24
Production before projected supply period	3/27	3/18	3/24
Production during projected supply period	9/27	9/18	9/24
Production after projected supply period	15/27	6/18	12/24

Source: Figure D1

To calculate the kumara production expected during a three-month period, the total number of mounds for each successive crop at the three sites is multiplied by the average weight of kumara per mound for those crops (Table 6.5). As with the determination of total yield, in both Ghauvalisi and Sughu the resultant total must be reduced by 15 and 25 per cent respectively to allow for the presence of logs, stumps, and undergrowh within the garden confines at each of the two sites. This adjusted figure is multiplied by the fraction of production expected during the three-month period to derive the projection of kumara supply (Table E3).

Demand. Figures of actual kumara production presented in Table 6.8 are based upon the amount harvested during the survey period. The average daily demand per capita was determined and then projected to a 90-day period for the population surveyed at each of the three sites.

Optimal kumara consumption, the basis for this demand calculation, followed Holmes' (1951:9) recommendations after fieldwork in coastal Guadalcanal, Save, Santa Isabel and Malaita (Fig. 1.1). Since Holmes' age breakdowns for her village data do not follow standard age/sex groupings, the population figures for each Weather Coast site were adjusted for consistency. For example, the number of persons aged 15 were added to the 10-14 age category, as does Holmes, and likewise the persons between 0 and 1 year of age were subtracted from the 0-4 age category (see Table 6.9). The adjusted population figures were multiplied by the appropriate kumara consumption figure, and then projected for the 90-day period.

Table E3

CALCULATIONS FOR TOTAL PROJECTED SUPPLY OF KUMARA

Site	Successive crop	Number of mounds	x	Average weight per mound	=	Total expected production	-	Adjustment	x	Expected production during three month period	=	Projected supply
Hatare/ Poinaho	1	5,376		3.5		18,816.0						
	2	4,458		2.2		9,807.6						
	3	772		1.8		1,389.6						
Total						30,013.2		-		9/27		10,004
Ghauvalisi	1	4,606		9.4		43,296.4						
	2	3,298		4.2		13,851.6						
Total						57,148.0		15%		9/18		24,287
Sughu	1	16,155		4.7		75,928.5						
	2	29,303		2.7		79,118.1						
	3	6,391		2.5		15,977.5						
Total						171,024.1		25%		9/24		48,101

Data Source: Field notes

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